

STIC-Biotech/ChemLib

99433

From: Elliott, George
Sent: Tuesday, July 22, 2003 3:57 PM
To: STIC-Biotech/ChemLib
Cc: Spector, Lorraine
Subject: FW: RUSH SEARCH request for Serial No. 09/546857

Importance: High

Please **rush**

Thanks,

George

10B11
10B19
RECEIVED
JUL 22 2003
STIC
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-----Original Message-----

Fr m: Spector, Lorraine
Sent: Tuesday, July 22, 2003 3:51 PM
To: Elliott, George
Subject: RUSH SEARCH request for Serial No. 09/546857
Imp rtance: High

George,

Would you please authorize the following RUSH search?

Reason: Amended, weird sequence needs.

STIC,

Serial Number: NO- sequence compliance not required.

Please search the following short peptides- they are mutated regions of human VEGF.

- 1) CNSEMRECVPTES
- 2) HHEVVKFEDVLRSSCHPIE

pending
-issued
-commercial

hand enter
plg

Thanks.

Lorraine Spector

703-308-1793

U.S. Patent and Trademark Office

Art Unit 1647

Searcher: D. Schwebel
Phone: 308-4292
Location: CM1 6A03
Date Picked Up: _____
Searcher Prep/Review: 14 Completed
Clerical: _____
Online time: 37 7/24

TYPE OF SEARCH:
NA Sequences: _____
AA Sequences: 2
Structures: _____
Bibliographic: _____
Litigation: _____
Full text: _____
Patent Family: _____
Other: _____

VENDOR/COST (where applic.)
STN: _____
DIALOG: _____
Questel/Orbit: _____
DRLink: _____
Lexis/Nexis: _____
Sequence Sys.: Compag
WWW/Internet: 16
Other (specify): _____

lorraine.spector@uspto.gov

CM1-10B11

Mailbox 10-B19

Searcher: _____
Phone: _____
Location: _____
Date Picked Up: _____
Searcher Prep/Review: _____
Clerical: _____
Online time: _____

TYPE OF SEARCH:

NA Sequences: _____
AA Sequences: _____
Structures: _____
Bibliographic: _____
Litigation: _____
Full text: _____
Patent Family: _____
Other: _____

VENDOR/COST (where applic.)

STN: _____
DIALOG: _____
Questel/Orbit: _____
DRLink: _____
Lexis/Nexis: _____
Sequence Sys.: _____
WWW/Internet: _____
Other (specify): _____

Pending Nucleic Acid and/or Pending Amino Acid database searches now generate two sets of results. These databases were split into two parts to reduce the time needed to update the databases daily. The split freed up more machine time for processing searches.

Searches run against the Nucleic Acid Pending database produce two sets of results, with the extensions, **.rnpm** and **.rnpn**

Searches run against the Amino Acid Pending database produce two sets of results, with the extensions, **.rapm** and **.rapn**

The Pending database search results should not be left in the case because they contain data that is confidential.

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 24, 2003, 14:47:39 Search time 27.1765 Seconds
(without alignments)
61.179 Million cell updates/sec

Title: PEPL
Perfect score: 78
Sequence: 1 CNSEMRCPVPTES 14

Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5

Searched: 451899 seqs, 118759770 residues
Total number of hits satisfying chosen parameters: 451899

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

- Database: Published Applications AA:*
- 1: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep.*
 - 2: /cgn2_6/ptodata/2/pubpaa/PTC_NEW_PUB.pep.*
 - 3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep.*
 - 4: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep.*
 - 5: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep.*
 - 6: /cgn2_6/ptodata/2/pubpaa/PTCUS_PUBCOMB.pep.*
 - 7: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep.*
 - 8: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep.*
 - 9: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep.*
 - 10: /cgn2_6/ptodata/2/pubpaa/US09B_PUBCOMB.pep.*
 - 11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep.*
 - 12: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep.*
 - 13: /cgn2_6/ptodata/2/pubpaa/US10A_PUBCOMB.pep.*
 - 14: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep.*
 - 15: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep.*
 - 16: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep.*
 - 17: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep.*
 - 18: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Match	Length	DB	ID	Description
1	60	76.9	105	10	US-09-795-006A-159	Sequence 159, App
2	60	76.9	105	10	US-09-795-006A-161	Sequence 161, App
3	60	76.9	105	10	US-09-795-006A-163	Sequence 163, App
4	60	76.9	105	10	US-09-795-006A-167	Sequence 167, App
5	60	76.9	105	10	US-09-795-006A-171	Sequence 171, App
6	60	76.9	105	10	US-09-795-006A-175	Sequence 175, App
7	60	76.9	126	10	US-09-795-006A-55	Sequence 55, App
8	60	76.9	126	10	US-09-795-006A-63	Sequence 63, App
9	60	76.9	127	10	US-09-795-006A-87	Sequence 87, App
10	60	76.9	127	10	US-09-795-006A-95	Sequence 95, App
11	60	76.9	128	10	US-09-795-006A-71	Sequence 71, App
12	60	76.9	128	10	US-09-795-006A-79	Sequence 79, App
13	60	76.9	129	10	US-09-795-006A-103	Sequence 103, App
14	60	76.9	129	10	US-09-795-006A-111	Sequence 111, App
15	59	75.6	47	14	US-10-139-876-13	Sequence 13, App

16	59	75.6	79	14	US-10-086-623-14	Sequence 14, Appl
17	59	75.6	79	15	US-10-260-539-14	Sequence 14, Appl
18	59	75.6	94	9	US-09-761-636A-2	Sequence 2, Appl
19	59	75.6	101	11	US-09-832-355A-2	Sequence 2, Appl
20	59	75.6	105	9	US-09-925-299-927	Sequence 927, App
21	59	75.6	105	10	US-09-795-006A-51	Sequence 51, Appl
22	59	75.6	105	10	US-09-795-006A-59	Sequence 59, Appl
23	59	75.6	105	10	US-09-795-006A-153	Sequence 153, App
24	59	75.6	105	10	US-09-795-006A-165	Sequence 165, App
25	59	75.6	105	10	US-09-795-006A-169	Sequence 169, App
26	59	75.6	105	10	US-09-795-006A-173	Sequence 173, App
27	59	75.6	105	11	US-09-925-299-927	Sequence 927, App
28	59	75.6	110	9	US-09-822-270-17	Sequence 17, Appl
29	59	75.6	110	14	US-10-083-817-11	Sequence 11, Appl
30	59	75.6	110	15	US-10-268-447-11	Sequence 11, Appl
31	59	75.6	121	11	US-09-832-355A-1	Sequence 1, Appl
32	59	75.6	126	10	US-09-795-006A-43	Sequence 43, Appl
33	59	75.6	127	10	US-09-795-006A-47	Sequence 47, Appl
34	59	75.6	127	10	US-09-795-006A-83	Sequence 83, Appl
35	59	75.6	127	10	US-09-795-006A-91	Sequence 91, Appl
36	59	75.6	128	10	US-09-795-006A-67	Sequence 67, Appl
37	59	75.6	128	10	US-09-795-006A-75	Sequence 75, Appl
38	59	75.6	129	10	US-09-795-006A-99	Sequence 99, Appl
39	59	75.6	129	10	US-09-795-006A-107	Sequence 107, App
40	59	75.6	141	15	US-10-298-794-2	Sequence 2, Appl
41	59	75.6	145	14	US-10-083-817-2	Sequence 2, Appl
42	59	75.6	145	15	US-10-268-447-4	Sequence 4, Appl
43	59	75.6	147	14	US-10-083-817-1	Sequence 1, Appl
44	59	75.6	147	15	US-10-268-447-2	Sequence 2, Appl
45	59	75.6	150	11	US-09-832-355A-61	Sequence 61, Appl

ALIGNMENTS

RESULT 1
US-09-795-006A-159
Sequence 159, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Alitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
ENDOTHELIAL GROWTH FACTOR DNAs AND PROTEINS
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
PRIOR FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
NUMBER OF SEQ ID NOS: 173
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 159
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of h:
US-09-795-006A-159

Query Match: 76.9%; Score 60; DB 10; Length 105;
Best Local Similarity 78.6%; Pred. No. 0.019;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CNSEMRCPVPTES 14
|||||
Db 55 CNSEGLQCVPTES 68

RESULT 2
US-09-795-006A-161
Sequence 161, Application US/09795006A
Patent No. US20020151680A1

D635

GENERAL INFORMATION:
APPLICANT: Alitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 161
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-161

Query Match 76.9%; Score 60; DB 10; Length 105;
Best Local Similarity 78.6%; Pred. No. 0.019;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CNSEMRCPVTEES 14
||||| :|||||
Db 55 CNSEGLQCVTEES 68

RESULT 3
US-09-795-006A-163
Sequence 163, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Alitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 163
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-163

Query Match 76.9%; Score 60; DB 10; Length 105;
Best Local Similarity 78.6%; Pred. No. 0.019;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CNSEMRCPVTEES 14
||||| :|||||
Db 54 CNSEGLQCVTEES 67

RESULT 4
US-09-795-006A-167
Sequence 167, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Alitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B

CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 167
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-167

Query Match 76.9%; Score 60; DB 10; Length 105;
Best Local Similarity 78.6%; Pred. No. 0.019;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CNSEMRCPVTEES 14
||||| :|||||
Db 54 CNSEGLQCVTEES 67

RESULT 5
US-09-795-006A-171
Sequence 171, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Alitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 171
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-171

Query Match 76.9%; Score 60; DB 10; Length 105;
Best Local Similarity 78.6%; Pred. No. 0.019;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CNSEMRCPVTEES 14
||||| :|||||
Db 54 CNSEGLQCVTEES 67

RESULT 6
US-09-795-006A-175
Sequence 175, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Alitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205

; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 175
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-175

Query Match 76.9%; Score 60; DB 10; Length 105;
Best Local Similarity 78.6%; Pred. No. 0.019; 2; Indels 0; Gaps 0;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNSEMRECVPTES 14
Db 54 CNSEGLQCVPTES 67
IIII :IIIIII

RESULT 7

US-09-795-006A-55
; Sequence 55, Application US/09795006A
; Patent No. US20020151680A1
; GENERAL INFORMATION:
; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795,006A
; PRIOR FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 55
; LENGTH: 126
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-55

Query Match 76.9%; Score 60; DB 10; Length 126;
Best Local Similarity 78.6%; Pred. No. 0.023; 2; Indels 0; Gaps 0;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNSEMRECVPTES 14
Db 54 CNSEGLQCVPTES 67
IIII :IIIIII

RESULT 8

US-09-795-006A-63
; Sequence 63, Application US/09795006A
; Patent No. US20020151680A1
; GENERAL INFORMATION:
; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795,006A
; PRIOR FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 63
; LENGTH: 126

; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-63

Query Match 76.9%; Score 60; DB 10; Length 126;
Best Local Similarity 78.6%; Pred. No. 0.023; 2; Indels 0; Gaps 0;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNSEMRECVPTES 14
Db 54 CNSEGLQCVPTES 67
IIII :IIIIII

RESULT 9

US-09-795-006A-87
; Sequence 87, Application US/09795006A
; Patent No. US20020151680A1
; GENERAL INFORMATION:
; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795,006A
; PRIOR FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 87
; LENGTH: 127
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-87

Query Match 76.9%; Score 60; DB 10; Length 127;
Best Local Similarity 78.6%; Pred. No. 0.023; 2; Indels 0; Gaps 0;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNSEMRECVPTES 14
Db 55 CNSEGLQCVPTES 68
IIII :IIIIII

RESULT 10

US-09-795-006A-95
; Sequence 95, Application US/09795006A
; Patent No. US20020151680A1
; GENERAL INFORMATION:
; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795,006A
; PRIOR FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 95
; LENGTH: 127
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-95

Query Match 76.9%; Score 60; DB 10; Length 127;
Best Local Similarity 78.6%; Pred. No. 0.023; 2; Indels 0; Gaps 0;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

US-09-795-006A-95

Query Match 76.9%; Score 60; DB 10; Length 127;
Best Local Similarity 78.6%; Pred. No. 0.023; 2; Indels 0; Gaps 0;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNSEMRCPVPTES 14
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Db 55 CNSEGLQCVPTES 68

RESULT 11

US-09-795-006A-71
; Sequence 71, Application US/09795006A
; Patent No. US20020151680A1
; GENERAL INFORMATION:
; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795.006A
; CURRENT FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 71
; LENGTH: 128
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-71

Query Match 76.9%; Score 60; DB 10; Length 128;
Best Local Similarity 78.6%; Pred. No. 0.023; 2; Indels 0; Gaps 0;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNSEMRCPVPTES 14
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Db 54 CNSEGLQCVPTES:67

RESULT 12

US-09-795-006A-79
; Sequence 79, Application US/09795006A
; Patent No. US20020151680A1
; GENERAL INFORMATION:
; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795.006A
; CURRENT FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 79
; LENGTH: 128
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-79

Query Match 76.9%; Score 60; DB 10; Length 128;
Best Local Similarity 78.6%; Pred. No. 0.023;

Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNSEMRCPVPTES 14
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Db 54 CNSEGLQCVPTES 67

RESULT 13

US-09-795-006A-103
; Sequence 103, Application US/09795006A
; Patent No. US20020151680A1
; GENERAL INFORMATION:
; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795.006A
; CURRENT FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 103
; LENGTH: 129
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-103

Query Match 76.9%; Score 60; DB 10; Length 129;
Best Local Similarity 78.6%; Pred. No. 0.024; 2; Indels 0; Gaps 0;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNSEMRCPVPTES 14
 |||||:|||||
Db 55 CNSEGLQCVPTES 68

RESULT 14

US-09-795-006A-111
; Sequence 111, Application US/09795006A
; Patent No. US20020151680A1
; GENERAL INFORMATION:
; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795.006A
; CURRENT FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 111
; LENGTH: 129
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-111

Query Match 76.9%; Score 60; DB 10; Length 129;
Best Local Similarity 78.6%; Pred. No. 0.024; 2; Indels 0; Gaps 0;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNSEMRCPVPTES 14
 |||||:|||||
Db 55 CNSEGLQCVPTES 68

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RESULT 15
US-10-139-876-13
; Sequence 13, Application US/10139876
; Publication No. US20020123481A1
; GENERAL INFORMATION:
; APPLICANT: Oliviero, Salvatore
; TITLE OF INVENTION: C-Fos Induced Growth Factor (Fgf) And Dna Encoding Same
; FILE REFERENCE: 35784/205172
; CURRENT APPLICATION NUMBER: US/10/139,876
; PRIOR FILING DATE: 2002-05-07
; PRIOR APPLICATION NUMBER: 09/043,476
; PRIOR FILING DATE: 1998-03-18
; PRIOR APPLICATION NUMBER: PCT/IB96/0113
; PRIOR FILING DATE: 1996-09-30
; PRIOR APPLICATION NUMBER: GB9612368.2
; PRIOR FILING DATE: 1996-06-13
; PRIOR APPLICATION NUMBER: GB9519928.7
; PRIOR FILING DATE: 1995-09-29
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 13
; LENGTH: 47
; TYPE: PRT
; ORGANISM: unknown
; FEATURE:
; OTHER INFORMATION: mammalian
; NAME/KEY: PEPTIDE
; LOCATION: (1)...(47)
; OTHER INFORMATION: segment of VEGF
US-10-139-876-13

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Query Match 75.6%; Score 59; DB 14; Length 47;
Best Local Similarity 78.6%; Pred. No. 0.012;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Caps 0;

QY 1 CNSEMRCPTEES 14
DB 1 CNDEGLECPTEES 14

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Search completed: July 24, 2003, 15:02:50
Job time : 30.1765 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 24, 2003, 14:08:24 Search time 47.7647 Seconds
(without alignments)
46.523 Million cell updates/sec

Title: PEPL

Perfect score: 78

Sequence: 1 CNSEMRCPVPTES 14

Scoring table: BLOSUM62

Gapop 10.0, Gapext 0.5

Searched: 1107863 seqs, 158726573 residues

Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database:

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- 2: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1981.DAT:*
- 3: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1982.DAT:*
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- 12: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1991.DAT:*
- 13: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1992.DAT:*
- 14: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1993.DAT:*
- 15: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1994.DAT:*
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- 19: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1998.DAT:*
- 20: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1999.DAT:*
- 21: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2000.DAT:*
- 22: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2001.DAT:*
- 23: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2002.DAT:*
- 24: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2003.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Query Match	Length	ID	Description
1	78	100.0	191 21	AA28234 Mutant human VEGF
2	78	100.0	191 21	AA28235 Mutant human VEGF
3	78	100.0	191 21	AA28236 Mutant human VEGF
4	60	76.9	105 22	AAU08470 Polypeptide encode
5	60	76.9	105 22	AAU08471 Polypeptide encode
6	60	76.9	105 22	AAU08472 Polypeptide encode
7	60	76.9	105 22	AAU08473 Polypeptide encode
8	60	76.9	105 22	AAU08476 Polypeptide encode
9	60	76.9	105 22	AAU08478 Polypeptide encode

10	60	76.9	126	22	AAU08409	Polypeptide encode
11	60	76.9	126	22	AAU08413	Polypeptide encode
12	60	76.9	127	22	AAU08425	Polypeptide encode
13	60	76.9	127	22	AAU08429	Polypeptide encode
14	60	76.9	128	22	AAU08417	Polypeptide encode
15	60	76.9	128	22	AAU08421	Polypeptide encode
16	60	76.9	129	22	AAU08433	Polypeptide encode
17	60	76.9	129	22	AAU08437	Polypeptide encode
18	59	75.6	65	17	AAU94035	VEGF exon III, Ho
19	59	75.6	66	14	AAU42609	Encoded by human V
20	59	75.6	94	22	AAU04521	Human VEGF amino a
21	59	75.6	101	24	AAE32330	Human VEGF-A recep
22	59	75.6	102	22	AAU08484	VEGFR-1 binding ep
23	59	75.6	105	21	AAU53387	Human colon cancer
24	59	75.6	105	22	AAU08407	Polypeptide encode
25	59	75.6	105	22	AAU08411	Polypeptide encode
26	59	75.6	105	22	AAU08467	Polypeptide encode
27	59	75.6	105	22	AAU08473	Polypeptide encode
28	59	75.6	105	22	AAU08475	Polypeptide encode
29	59	75.6	105	22	AAU08477	Polypeptide encode
30	59	75.6	110	21	AAU69417	Amino acid sequenc
31	59	75.6	110	21	AAU83038	Human vascular end
32	59	75.6	110	22	AAU79276	Primary sequence o
33	59	75.6	110	22	AAU50436	Human VEGF110, Ho
34	59	75.6	110	23	AAU76304	Human vascular end
35	59	75.6	121	12	AAU11385	Human VEGF-121, H
36	59	75.6	121	14	AAU42607	Human VEGF-121, H
37	59	75.6	121	17	AAU09091	Human VEGF/VPF121
38	59	75.6	121	17	AAU03677	Vascular permeabil
39	59	75.6	121	17	AAU96043	Human vascular per
40	59	75.6	121	17	AAU93977	Vascular permeabil
41	59	75.6	121	19	AAU40597	VEGF/VPF121, Homo
42	59	75.6	121	20	AAU23943	Amino acid sequenc
43	59	75.6	121	20	AAU08278	Human growth facto
44	59	75.6	121	21	AAU99848	Human vascular end
45	59	75.6	121	22	AAU50428	Mature human vascu

ALIGNMENTS

RESULT 1
AA28234
ID AA28234 standard; Protein: 191 AA.

AC AA28234;

DT 13-FEB-2001 (first entry)

DE Mutant human VEGF #2.

Human; vascular endothelial growth factor; VEGF; mutain; mutation;
kinase domain region receptor; KDR; vasculogenesis; angiogenesis;
surgical incision; wound; laceration; blood vessel; ulcer.

OS Homo sapiens.

OS Synthetic.

Key Location/Qualifiers

FT Misc-difference 89 /note= "Wild-type Asp substituted by Ser"

FT Misc-difference 91 /note= "Wild-type Gly substituted by Met"

FT Misc-difference 92 /note= "Wild-type Leu substituted by Arg"

FT WO200063380-A1.

PD 26-OCT-2000.

XX 10-APR-2000; 2000WO-US09483.

XX 16-APR-1999; 99US-0129788.

```

PR 23-FEB-2000; 2000US-0184235.
XX (GETH ) GENENTECH INC.
XX
XX Cuningham B, Abraham D, Li B;
XX
XX WPI; 2000-672736/65.
XX
XX Vascular endothelial growth factor variant useful for detecting kinase
PT domain region receptor for diagnostic purposes, comprises one or more
PT amino acid mutations in native VEGF and has selective binding affinity
PT for the receptor
XX
XX Claim 5; Page -: 70pp; English.
XX
XX The present invention relates to mutant human vascular endothelial
CC growth factor (VEGF) proteins (AAB28233-B28236). The present sequence is
CC one such mutant. The mutant VEGF proteins have selective binding affinity
CC for kinase domain region (KDR) receptor. The mutant VEGF proteins are
CC useful for detecting KDR receptors for diagnostic purposes. In addition,
CC the mutant VEGF proteins are useful for stimulating vasculogenesis or
CC angiogenesis by exposing mammalian cells expressing a KDR receptor to
CC the mutant proteins to treat trauma to the vascular network caused by
CC surgical incisions, wounds, lacerations, penetration of blood vessels
CC and surface ulcers.
CC Note: the present sequence is not shown in the specification but is
CC derived from the wild-type human VEGF sequence given in Fig 1.
XX
XX SQ Sequence 191 AA;

```

```

Query Match 100.0%; Score 78; DB 21; Length 191;
Best Local Similarity 100.0%; Pred. No. 0.00029;
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 CNSEMRRCVPTES 14
DB 87 CNSEMRRCVPTES 100
|||||

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```

RESULT 2
AAB28235
ID AAB28235 standard; Protein; 191 AA.
XX
XX AAB28235;
AC
XX 13-FEB-2001 (first entry)
XX
XX Mutant human VEGF #3.
XX
XX Human; vascular endothelial growth factor; VEGF; mutein; mutation;
KW kinase domain region receptor; KDR; vasculogenesis; angiogenesis;
KW surgical incision; wound; laceration; blood vessel; ulcer.
XX
XX Homo sapiens.
XX Synthetic.
XX
XX Key Location/Qualifiers
FH Misc-difference 44
FT /note= "Wild-type Met substituted by Glu"
FT Misc-difference 89
FT /note= "Wild-type Asp substituted by Ser"
FT Misc-difference 91
FT /note= "Wild-type Gly substituted by Met"
FT Misc-difference 92
FT /note= "Wild-type Leu substituted by Arg"
XX
XX WO200063380-A1.
XX
XX 26-OCT-2000.
XX
XX 10-APR-2000; 2000WO-US09483.
XX
XX 16-APR-1999; 99US-0129788.
PR

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```

PR 23-FEB-2000; 2000US-0184235.
XX (GETH ) GENENTECH INC.
XX
XX Cuningham B, Abraham D, Li B;
XX
XX WPI; 2000-672736/65.
XX
XX Vascular endothelial growth factor variant useful for detecting kinase
PT domain region receptor for diagnostic purposes, comprises one or more
PT amino acid mutations in native VEGF and has selective binding affinity
PT for the receptor
XX
XX Claim 6; Page -: 70pp; English.
XX
XX The present invention relates to mutant human vascular endothelial
CC growth factor (VEGF) proteins (AAB28233-B28236). The present sequence is
CC one such mutant. The mutant VEGF proteins have selective binding affinity
CC for kinase domain region (KDR) receptor. The mutant VEGF proteins are
CC useful for detecting KDR receptors for diagnostic purposes. In addition,
CC the mutant VEGF proteins are useful for stimulating vasculogenesis or
CC angiogenesis by exposing mammalian cells expressing a KDR receptor to
CC the mutant proteins to treat trauma to the vascular network caused by
CC surgical incisions, wounds, lacerations, penetration of blood vessels
CC and surface ulcers.
CC Note: the present sequence is not shown in the specification but is
CC derived from the wild-type human VEGF sequence given in Fig 1.
XX
XX SQ Sequence 191 AA;

```

```

Query Match 100.0%; Score 78; DB 21; Length 191;
Best Local Similarity 100.0%; Pred. No. 0.00029;
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 CNSEMRRCVPTES 14
DB 87 CNSEMRRCVPTES 100
|||||

```

```

RESULT 3
AAB28236
ID AAB28236 standard; Protein; 191 AA.
XX
XX AAB28236;
AC
XX 13-FEB-2001 (first entry)
XX
XX Mutant human VEGF #4.
XX
XX Human; vascular endothelial growth factor; VEGF; mutein; mutation;
KW kinase domain region receptor; KDR; vasculogenesis; angiogenesis;
KW surgical incision; wound; laceration; blood vessel; ulcer.
XX
XX Homo sapiens.
XX Synthetic.
XX
XX Key Location/Qualifiers
FH Misc-difference 47
FT /note= "Wild-type Tyr substituted by Leu"
FT Misc-difference 89
FT /note= "Wild-type Asp substituted by Ser"
FT Misc-difference 91
FT /note= "Wild-type Gly substituted by Met"
FT Misc-difference 92
FT /note= "Wild-type Leu substituted by Arg"
XX
XX WO200063380-A1.
XX
XX 26-OCT-2000.
XX
XX 10-APR-2000; 2000WO-US09483.
XX
XX 16-APR-1999; 99US-0129788.
PR

```

PR 23-FEB-2000; 2000US-0184235.

PA (GETH) GENENTECH INC.

PI Cunningham B, Abraham D, Li B;

XX WPI; 2000-672736/65.

XX Vascular endothelial growth factor variant useful for detecting kinase
PT domain region receptor for diagnostic purposes, comprises one or more
PT amino acid mutations in native VEGF and has selective binding affinity
PT for the receptor

XX Claim 7; Page -; 70pp; English.

CC The present invention relates to mutant human vascular endothelial
CC growth factor (VEGF) proteins (AAB28233-B28236). The present sequence is
CC one such mutant. The mutant VEGF proteins have selective binding affinity
CC for kinase domain region (KDR) receptor. The mutant VEGF proteins are
CC useful for detecting KDR receptors for diagnostic purposes. In addition,
CC the mutant VEGF proteins are useful for stimulating vasculogenesis or
CC angiogenesis by exposing mammalian cells expressing a KDR receptor to
CC the mutant proteins to treat trauma to the vascular network caused by
CC surgical incisions, wounds, lacerations, penetration of blood vessels
CC and surface ulcers.

CC Note: the present sequence is not shown in the specification but is
CC derived from the wild-type human VEGF sequence given in Fig 1.

XX Sequence 191 AA;

Query Match 100.0%; Score 78; DB 21; Length 191;

Best Local Similarity 100.0%; Pred. No. 0.00029;

Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 CNSEMRECVPTES 14

Db 87 CNSEMRECVPTES 100

RESULT 4

ID AAU08470 standard; Protein: 105 AA

XX AAU08470;

DT 21-NOV-2001 (first entry)

XX Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 52-15.

DE Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
KW cardiovascular; VEGF-C; mutant; mutein.

XX Homo sapiens.

OS Synthetic.

XX W0200162942-A2

PN 30-AUG-2001

XX 26-FEB-2001; 2001WO-US061113.

XX 25-FEB-2000; 2000US-0185205.

PR 18-MAY-2000; 2000US-0205331.

XX (LUDW-) LUDWIG INST CANCER RES.

XX (LICN) LICENTIA OY.

XX Alitalo K, Jeltsch MM;

XX WPI; 2001-536640/59.

XX N-PSDB; AAS12889.

DR

XX Polypeptides that bind cellular receptors for vascular endothelial
PT growth factors, polynucleotides encoding them

XX Claim 45; Page 252; 261pp; English.

XX The present invention relates to polypeptides that bind cellular
CC receptors for vascular endothelial growth factors (VEGFs), the
CC polynucleotides encoding them, and their use for identifying agents that
CC modulate interactions between VEGFs and their receptors. VEGFs and their
CC receptors play an important role in vasculogenesis, the development of
CC the embryonic vasculature from early differentiating endothelial cells
CC and angiogenesis, the process of forming new blood vessels from
CC pre-existing ones. Modulators of interactions between VEGF and its
CC receptors may be used to treat dysfunction of the endothelial cell
CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
CC proliferative retinopathies, age-related macular degeneration, rheumatoid
CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
CC receptor binding profiles compared to known naturally occurring VEGFs.
CC The present sequence represents the polypeptide encoded by human
CC VEGF-A/VEGF-C hybrid construct clone 52-15.

XX Sequence 105 AA;

Query Match 76.9%; Score 60; DB 22; Length 105;

Best Local Similarity 78.6%; Pred. No. 0.09;

Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Oy 1 CNSEMRECVPTES 14

Db 55 CNSEGLOCVPTES 68

RESULT 5

AAU08471

ID AAU08471 standard; Protein: 105 AA

XX AAU08471;

DT 21-NOV-2001 (first entry)

XX Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 53-3.

DE Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
KW cardiovascular; VEGF-C; mutant; mutein.

XX Homo sapiens.

OS Synthetic.

XX W0200162942-A2

PN 30-AUG-2001

XX 26-FEB-2001; 2001WO-US061113.

XX 25-FEB-2000; 2000US-0185205.

PR 18-MAY-2000; 2000US-0205331.

XX (LUDW-) LUDWIG INST CANCER RES.

XX (LICN) LICENTIA OY.

XX Alitalo K, Jeltsch MM;

XX WPI; 2001-536640/59.

XX N-PSDB; AAS12890.

XX Polypeptides that bind cellular receptors for vascular endothelial
PT growth factors, polynucleotides encoding them

XX Claim 46; Page 253; 261pp; English.

XX

CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 53-3.

XX SQ Sequence 105 AA;
 Query Match 76.9%; Score 60; DB 22; Length 105;
 Best Local Similarity 78.6%; Pred. No. 0.09; 2; Indels 0; Gaps 0;
 Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CNSEMRCPTEES 14
 DB 55 CNSEGLQCVTEES 68
 RESULT 6
 AAU08472

ID AAU08472 standard; Protein; 105 AA.
 XX AC AAU08472;
 XX DT 21-NOV-2001 (first entry)

XX Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 82-7.

XX Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KW cardiovascular; VEGF-C; mutant; mutein.

XX OS Homo sapiens.
 XX OS Synthetic.

XX PN WO200162942-A2.

XX PD 30-AUG-2001.

XX PF 26-FEB-2001; 2001WO-US06113.

XX PR 25-FEB-2000; 2000US-0185205.

XX PR 18-MAY-2000; 2000US-0205331.

XX PA (LUDW-) LUDWIG INST CANCER RES.

XX PA (LICN) LICENTIA OY.

XX PI Alitalo K, Jeltsch MM;

XX DR WPI; 2001-536640/59.

XX DR N-PSDB; AAS12891.

XX Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -
 PS Claim 47; Page 254-255; 261pp; English.

CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells

CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 82-7.

XX SQ Sequence 105 AA;

Query Match 76.9%; Score 60; DB 22; Length 105;

Best Local Similarity 78.6%; Pred. No. 0.09; 2; Indels 0; Gaps 0;
 Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CNSEMRCPTEES 14
 DB 54 CNSEGLQCVTEES 67
 RESULT 7
 AAU08474

ID AAU08474 standard; Protein; 105 AA.
 XX AC AAU08474;
 XX DT 21-NOV-2001 (first entry)

XX Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 82-11.
 XX Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KW cardiovascular; VEGF-C; mutant; mutein.

XX OS Homo sapiens.

XX OS Synthetic.

XX PN WO200162942-A2.

XX PD 30-AUG-2001.

XX PF 26-FEB-2001; 2001WO-US06113.

XX PR 25-FEB-2000; 2000US-0185205.

XX PR 18-MAY-2000; 2000US-0205331.

XX PA (LUDW-) LUDWIG INST CANCER RES.

XX PA (LICN) LICENTIA OY.

XX PI Alitalo K, Jeltsch MM;

XX DR WPI; 2001-536640/59.

XX DR N-PSDB; AAS12893.

XX Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -
 PS Claim 49; Page 257; 261pp; English.

CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique

CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 82-11.

XX Sequence 105 AA;
 SQ Query Match 76.9%; Score 60; DB 22; Length 105;
 Best Local Similarity 78.6%; Pred. No. 0.09;
 Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CNSEMRCPVPTES 14
 DB 54 CNSEGLQCVPTES 67
 IIII :IIIIII

RESULT 8
 AAU08476
 ID AAU08476 standard; Protein: 105 AA.

XX AC AAU08476;
 XX 21-NOV-2001 (first entry)

XX Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 82-15.

XX Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KW cardiovascular; VEGF-C; mutant; mutein.

XX OS Homo sapiens.
 OS Synthetic.

XX PN WO200162942-A2.

XX PD 30-AUG-2001.

XX PF 26-FEB-2001; 2001WO-US06113.

XX PR 25-FEB-2000; 2000US-0185205.

XX PR 18-MAY-2000; 2000US-0205331.

XX (LUDW-) LUDWIG INST CANCER RES.

XX (LICN) LICENTIA OY.

XX PI Alitalo K, Jeltsch MM;

XX WPI: 2001-536640/59.

XX N-PSDB; AAS12895.

XX Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -

XX Claim 51; Page 259; 261pp; English.

XX The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 82-15.

XX Sequence 105 AA;

SQ

Query Match 76.9%; Score 60; DB 22; Length 105;
 Best Local Similarity 78.6%; Pred. No. 0.09;
 Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CNSEMRCPVPTES 14
 DB 54 CNSEGLQCVPTES 67
 IIII :IIIIII

RESULT 9
 AAU08478
 ID AAU08478 standard; Protein: 105 AA.

XX AC AAU08478;

XX 21-NOV-2001 (first entry)

XX Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 84-11.

XX Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KW cardiovascular; VEGF-C; mutant; mutein.

XX OS Homo sapiens.
 OS Synthetic.

XX PN WO200162942-A2.

XX PD 30-AUG-2001.

XX PF 26-FEB-2001; 2001WO-US06113.

XX PR 25-FEB-2000; 2000US-0185205.

XX PR 18-MAY-2000; 2000US-0205331.

XX (LUDW-) LUDWIG INST CANCER RES.

XX (LICN) LICENTIA OY.

XX PI Alitalo K, Jeltsch MM;

XX WPI: 2001-536640/59.

XX N-PSDB; AAS12897.

XX Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -

XX Claim 53; Page 261; 261pp; English.

XX The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 84-11.

XX Sequence 105 AA;

SQ Query Match 76.9%; Score 60; DB 22; Length 105;

Best Local Similarity 78.6%; Pred. No. 0.09;

Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CNSEMRCPVPTES 14

DB 54 CNSEGLQCVPTES 67

IIII :IIIIII

Db 54 CNSEGLQCVPTES 67

RESULT 10

AAU08409
ID AAU08409 standard; Protein; 126 AA.XX AC AAU08409;
XX DT 21-NOV-2001 (first entry)

XX DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-3.

XX KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
XX KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
XX KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
XX KW cardiovascular; VEGF-C; mutant; mutein.XX OS Homo sapiens.
XX OS Synthetic.XX FH Key Location/Qualifiers
XX FT Domain 1..102

XX FT /note= "VEGF receptor binding domain"

XX PN WO200162942-A2.
XX PD 30-AUG-2001.XX PF 26-FEB-2001; 2001WO-US06113.
XX PR 25-FEB-2000; 2000US-0185205.
XX PR 18-MAY-2000; 2000US-0205331.XX PA (LUDW-) LUDWIG INST CANCER RES.
XX PA (LICN) LICENTIA OY.XX PI Alitalo K, Jeltsch MM;
XX XX WPI; 2001-536640/59.
XX DR N-PSDB; AAS12846.XX PT Polypeptides that bind cellular receptors for vascular endothelial
XX PT growth factors, polynucleotides encoding them -
XX PS Example 3; Page 184; 261pp; English.

CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 12-3.

XX SQ Sequence 126 AA;

Query Match 76.9%; Score 60; DB 22; Length 126;
Best Local Similarity 78.6%; Pred. No. 0.11;

Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CNSEMRQCVPTES 14
|||||:|||||||

Db 54 CNSEGLQCVPTES 67

RESULT 11

AAU08413
ID AAU08413 standard; Protein; 126 AA.XX AC AAU08413;
XX DT 21-NOV-2001 (first entry)

XX DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-7.

XX KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 XX KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 XX KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 XX KW cardiovascular; VEGF-C; mutant; mutein.

XX OS Homo sapiens.
XX OS Synthetic.XX FH Key Location/Qualifiers
XX FT Domain 1..102

XX FT /note= "VEGF receptor binding domain"

XX PN WO200162942-A2.
XX PD 30-AUG-2001.XX PF 26-FEB-2001; 2001WO-US06113.
XX PR 25-FEB-2000; 2000US-0185205.
XX PR 18-MAY-2000; 2000US-0205331.XX PA (LUDW-) LUDWIG INST CANCER RES.
XX PA (LICN) LICENTIA OY.XX PI Alitalo K, Jeltsch MM;
XX XX WPI; 2001-536640/59.
XX DR N-PSDB; AAS12850.

XX PT Polypeptides that bind cellular receptors for vascular endothelial
 XX PT growth factors, polynucleotides encoding them -
 XX PS Claim 37; Page 189; 261pp; English.

CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 12-7.

XX SQ Sequence 126 AA;

Query Match 76.9%; Score 60; DB 22; Length 126;
Best Local Similarity 78.6%; Pred. No. 0.11;

Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CNSEMRQCVPTES 14
|||||:|||||||

Db 54 CNSEGLQCVPTES 67

RESULT 12

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AAU08425
ID AAU08425 standard; Protein: 127 AA.
XX
AC
XX
DT
XX
XX
21-NOV-2001 (first entry)
XX
DE
XX
PEptide encoded by human VEGF-A/VEGF-C hybrid clone 31-3.
XX
KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
KW cardiovascular; VEGF-C; mutant; mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Domain 1..103
FT /note= "VEGF receptor binding domain"
XX
PN WO200162942-A2.
XX
PD 30-AUG-2001.
XX
PF 26-FEB-2001; 2001WO-US06113.
XX
PR 25-FEB-2000; 2000US-0185205.
PR 18-MAY-2000; 2000US-0205331.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
PA (LICN ) LICENTIA OY.
XX
PI Alitalo K, Jeltsch MM;
XX
DR WPI; 2001-536640/59.
DR N-PSDB; AAS12862.
XX
PT Polypeptides that bind cellular receptors for vascular endothelial
PT growth factors, polynucleotides encoding them -
XX
PS Example 3; Page 204; 261pp; English.
XX
CC The present invention relates to polypeptides that bind cellular
CC receptors for vascular endothelial growth factors (VEGFs), the
CC polynucleotides encoding them, and their use for identifying agents that
CC modulate interactions between VEGFs and their receptors. VEGFs and their
CC receptors play an important role in vasculogenesis, the development of
CC the embryonic vasculature from early differentiating endothelial cells
CC and angiogenesis, the process of forming new blood vessels from
CC pre-existing ones. Modulators of interactions between VEGF and its
CC receptors may be used to treat dysfunction of the endothelial cell
CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
CC proliferative retinopathies, age-related macular degeneration, rheumatoid
CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
CC receptor binding profiles compared to known naturally occurring VEGFs.
CC The present sequence represents the polypeptide encoded by human
CC VEGF-A/VEGF-C hybrid construct clone 31-3.
XX
SQ Sequence 127 AA;
Query Match 76.9%; Score 60; DB 22; Length 127;
Best Local Similarity 78.6%; Pred. No. 0.11;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
QY 1 CNSEMRECVPTES 14
Db 55 CNSEGLQCVPTES 68
RESULT 13
ID AAU08425 standard; Protein: 127 AA.
XX
AC

```

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XX
AC AAU08429;
XX
DT 21-NOV-2001 (first entry)
XX
DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 31-7.
XX
KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
KW cardiovascular; VEGF-C; mutant; mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Domain 1..103
FT /note= "VEGF receptor binding domain"
XX
PN WO200162942-A2.
XX
PD 30-AUG-2001.
XX
PF 26-FEB-2001; 2001WO-US06113.
XX
PR 25-FEB-2000; 2000US-0185205.
PR 18-MAY-2000; 2000US-0205331.
XX
PA (LUDW-) LUDWIG INST CANCER RES.
PA (LICN ) LICENTIA OY.
XX
PI Alitalo K, Jeltsch MM;
XX
DR WPI; 2001-536640/59.
DR N-PSDB; AAS12866.
XX
PT Polypeptides that bind cellular receptors for vascular endothelial
PT growth factors, polynucleotides encoding them -
XX
PS Example 3; Page 209; 261pp; English.
XX
CC The present invention relates to polypeptides that bind cellular
CC receptors for vascular endothelial growth factors (VEGFs), the
CC polynucleotides encoding them, and their use for identifying agents that
CC modulate interactions between VEGFs and their receptors. VEGFs and their
CC receptors play an important role in vasculogenesis, the development of
CC the embryonic vasculature from early differentiating endothelial cells
CC and angiogenesis, the process of forming new blood vessels from
CC pre-existing ones. Modulators of interactions between VEGF and its
CC receptors may be used to treat dysfunction of the endothelial cell
CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
CC proliferative retinopathies, age-related macular degeneration, rheumatoid
CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
CC receptor binding profiles compared to known naturally occurring VEGFs.
CC The present sequence represents the polypeptide encoded by human
CC VEGF-A/VEGF-C hybrid construct clone 31-7.
XX
SQ Sequence 127 AA;
Query Match 76.9%; Score 60; DB 22; Length 127;
Best Local Similarity 78.6%; Pred. No. 0.11;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
QY 1 CNSEMRECVPTES 14
Db 55 CNSEGLQCVPTES 68
RESULT 14
ID AAU08417 standard; Protein: 128 AA.
XX
AC AAU08417;

```

```

XX DT 21-NOV-2001 (first entry)
XX DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-11.
XX KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
XX KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
XX KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
XX KW cardiovascular; VEGF-C; mutant; mutein.
XX OS Homo sapiens.
XX OS Synthetic.
XX FH Key
XX FT Domain 1..104
XX FT /note= "VEGF receptor binding domain"
XX PN WO200162942-A2.
XX PD 30-AUG-2001.
XX PF 26-FEB-2001; 2001WO-US06113.
XX PR 25-FEB-2000; 2000US-0185205.
XX PR 18-MAY-2000; 2000US-0205331.
XX PA (LUDW-) LUDWIG INST CANCER RES.
XX PA (LICN ) LICENTIA OY.
XX PI Alitalo K, Jeltsch MM;
XX DR WPI; 2001-536640/59.
XX DR N-PSDB; AAS12854.
XX PT Polypeptides that bind cellular receptors for vascular endothelial
XX PT growth factors, polynucleotides encoding them -
XX PS Claim 39; Page 194; 261pp; English.
XX CC The present invention relates to polypeptides that bind cellular
XX CC receptors for vascular endothelial growth factors (VEGFs), the
XX CC polynucleotides encoding them, and their use for identifying agents that
XX CC modulate interactions between VEGFs and their receptors. VEGFs and their
XX CC receptors play an important role in vasculogenesis, the development of
XX CC the embryonic vasculature from early differentiating endothelial cells
XX CC and angiogenesis, the process of forming new blood vessels from
XX CC pre-existing ones. Modulators of interactions between VEGF and its
XX CC receptors may be used to treat dysfunction of the endothelial cell
XX CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
XX CC proliferative retinopathies, age-related macular degeneration, rheumatoid
XX CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
XX CC receptor binding profiles compared to known naturally occurring VEGFs.
XX CC The present sequence represents the polypeptide encoded by human
XX CC VEGF-A/VEGF-C hybrid construct clone 12-11.
XX SQ Sequence 128 AA;

Query Match 76.9%; Score 60; DB 22; Length 128;
Best Local Similarity 78.6%; Pred. No. 0.11;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CNSEMGQCVPTES 14
    |||| :|||||
DB 54 CNSEMGQCVPTES 67

RESULT 15
ID AAU08421
XX AAU08421 standard; Protein; 128 AA.
XX AC AAU08421;
XX DT 21-NOV-2001 (first entry)

```

```

XX DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-15.
XX KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
XX KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
XX KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
XX KW cardiovascular; VEGF-C; mutant; mutein.
XX OS Homo sapiens.
XX OS Synthetic.
XX FH Key
XX FT Domain 1..104
XX FT /note= "VEGF receptor binding domain"
XX PN WO200162942-A2.
XX PD 30-AUG-2001.
XX PF 26-FEB-2001; 2001WO-US06113.
XX PR 25-FEB-2000; 2000US-0185205.
XX PR 18-MAY-2000; 2000US-0205331.
XX PA (LUDW-) LUDWIG INST CANCER RES.
XX PA (LICN ) LICENTIA OY.
XX PI Alitalo K, Jeltsch MM;
XX DR WPI; 2001-536640/59.
XX DR N-PSDB; AAS12858.
XX PT Polypeptides that bind cellular receptors for vascular endothelial
XX PT growth factors, polynucleotides encoding them -
XX PS Example 3; Page 199; 261pp; English.
XX CC The present invention relates to polypeptides that bind cellular
XX CC receptors for vascular endothelial growth factors (VEGFs), the
XX CC polynucleotides encoding them, and their use for identifying agents that
XX CC modulate interactions between VEGFs and their receptors. VEGFs and their
XX CC receptors play an important role in vasculogenesis, the development of
XX CC the embryonic vasculature from early differentiating endothelial cells
XX CC and angiogenesis, the process of forming new blood vessels from
XX CC pre-existing ones. Modulators of interactions between VEGF and its
XX CC receptors may be used to treat dysfunction of the endothelial cell
XX CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
XX CC proliferative retinopathies, age-related macular degeneration, rheumatoid
XX CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
XX CC receptor binding profiles compared to known naturally occurring VEGFs.
XX CC The present sequence represents the polypeptide encoded by human
XX CC VEGF-A/VEGF-C hybrid construct clone 12-15.
XX SQ Sequence 128 AA;

Query Match 76.9%; Score 60; DB 22; Length 128;
Best Local Similarity 78.6%; Pred. No. 0.11;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CNSEMGQCVPTES 14
    |||| :|||||
DB 54 CNSEMGQCVPTES 67

Search completed: July 24, 2003, 14:45:44
Job time : 49.2647 secs

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GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 24, 2003, 14:43:50 Search time 11.9412 Seconds
(without alignments)
49.606 Million cell updates/sec

Title: pepl

Perfect score: 78

Sequence: 1 CNSEMRCPVTEES 14

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued_Patents_AA.*

- 1: /cgn2_6/ptodata/1/1aa/5A_COMB.pep.*
- 2: /cgn2_6/ptodata/1/1aa/5B_COMB.pep.*
- 3: /cgn2_6/ptodata/1/1aa/6A_COMB.pep.*
- 4: /cgn2_6/ptodata/1/1aa/6B_COMB.pep.*
- 5: /cgn2_6/ptodata/1/1aa/PCTUS_COMB.pep.*
- 6: /cgn2_6/ptodata/1/1aa/backfiles1.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	59	75.6	65	4	US-09-244-583-12
2	59	75.6	109	3	US-08-691-794-3
3	59	75.6	110	4	US-09-392-932-11
4	59	75.6	110	4	US-09-574-708A-11
5	59	75.6	110	4	US-09-822-270-17
6	59	75.6	121	6	5194596-19
7	59	75.6	121	6	5219739-20
8	59	75.6	136	4	US-09-037-983C-15
9	59	75.6	137	4	US-09-037-983C-17
10	59	75.6	138	4	US-09-037-983C-16
11	59	75.6	141	4	US-09-519-476-2
12	59	75.6	145	3	US-08-784-551C-2
13	59	75.6	145	4	US-09-392-932-2
14	59	75.6	145	4	US-09-574-708A-4
15	59	75.6	145	4	US-09-037-983C-2
16	59	75.6	147	3	US-08-807-992B-1
17	59	75.6	147	4	US-09-392-932-1
18	59	75.6	147	4	US-08-706-054A-4
19	59	75.6	147	4	US-09-574-708A-2
20	59	75.6	147	4	US-09-313-299-4
21	59	75.6	164	4	US-09-244-583-24
22	59	75.6	165	4	US-08-882-816-3
23	59	75.6	165	4	US-08-802-052B-3
24	59	75.6	165	6	5194596-18
25	59	75.6	165	6	5219739-19
26	59	75.6	188	4	US-09-244-583-28
27	59	75.6	191	3	US-08-567-200A-2

28	59	75.6	191	3	US-08-807-992B-2	Sequence 2, Appli
29	59	75.6	191	3	US-08-691-794-2	Sequence 2, Appli
30	59	75.6	191	3	US-08-795-430-56	Sequence 56, Appl
31	59	75.6	191	4	US-09-392-932-3	Sequence 3, Appli
32	59	75.6	191	4	US-09-355-700-56	Sequence 56, Appl
33	59	75.6	191	4	US-08-882-816-2	Sequence 2, Appli
34	59	75.6	191	4	US-09-574-708A-6	Sequence 6, Appli
35	59	75.6	191	4	US-08-802-052B-2	Sequence 2, Appli
36	59	75.6	191	6	5332671-4	Patent No. 5332671
37	59	75.6	208	4	US-09-244-583-26	Sequence 26, Appl
38	59	75.6	213	4	US-09-574-708A-8	Sequence 8, Appli
39	59	75.6	214	6	5240848-11	Patent No. 5240848
40	59	75.6	215	3	US-08-807-992B-3	Sequence 3, Appli
41	59	75.6	215	3	US-08-586-039B-49	Sequence 49, Appl
42	59	75.6	215	4	US-09-699-769-49	Sequence 49, Appl
43	59	75.6	215	6	5219739-22	Patent No. 5219739
44	59	75.6	215	6	5240848-7	Patent No. 5240848
45	59	75.6	231	5	PCT-US96-09001-10	Sequence 10, Appl

ALIGNMENTS

RESULT 1
US-09-244-583-12
; Sequence 12, Application US/09244583
; Patent No. 6479654
; GENERAL INFORMATION:
; APPLICANT: BAIRD, ANDREW
; APPLICANT: ANDREASON, GRAI
; TITLE OF INVENTION: NOVEL FORMS OF THE ANGIOGENIC FACTOR
; TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR: VEGF
; FILE REFERENCE: 240/086
; CURRENT APPLICATION NUMBER: US/09/244,583
; EARLIER FILING DATE: 1999-02-04
; EARLIER FILING DATE: 1998-02-06
; NUMBER OF SEQ ID NOS: 29
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 12
; LENGTH: 65
; TYPE: PRT
; ORGANISM: Homo sapien
US-09-244-583-12

Query Match 75.6% Score 59; DB 4; Length 65;
Best Local Similarity 78.6% Pred. No. 0.021;
Matches 11: Conservative 0; Mismatches 3; Indels 0; Gaps 0;
Qy 1 CNSEMRCPVTEES 14
Db 47 CNDEGLECVPTES 60

RESULT 2

US-08-691-794-3
; Sequence 3, Application US/08691794
; Patent No. 6057428
; GENERAL INFORMATION:
; APPLICANT: Keyt, Bruce A.
; APPLICANT: Nguyen, Francis H.
; APPLICANT: Ferrara, Napoleone
; APPLICANT: Cunningham, Brian C.
; APPLICANT: Wells, James A.
; APPLICANT: Li, Bing
; TITLE OF INVENTION: Variants of Vascular Endothelial Cell
; TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their
; TITLE OF INVENTION: Production
; NUMBER OF SEQUENCES: 45
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Flehr, Hobbach, Test, Albritton & Herbert
; STREET: Four Embarcadero Center, Suite 3400
; CITY: San Francisco

STATE: California
COUNTRY: United States
ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/691,794
FILING DATE: 02-AUG-1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/002,827
FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/567,200
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-63758/WHD
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 109 amino acids
TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
US-08-691-794-3

Query Match 75.6%; Score 59; DB 3; Length 109;
Best Local Similarity 78.6%; Pred. No. 0.035;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRECVPTTEES 14
||| |||||
DB 61 CNDEGLECVPTTEES 74

RESULT 3
US-09-392-932-11
Sequence 11, Application US/09392932
Patent No. 6352975
GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
FILE REFERENCE: SCIOS-002A
CURRENT APPLICATION NUMBER: US/09/392,932
CURRENT FILING DATE: 1999-09-09
EARLIER APPLICATION NUMBER: 60/099,694
EARLIER FILING DATE: 1998-09-09
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 11
LENGTH: 110
TYPE: PRT
ORGANISM: Homo Sapiens
US-09-392-932-11

Query Match 75.6%; Score 59; DB 4; Length 110;
Best Local Similarity 78.6%; Pred. No. 0.035;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRECVPTTEES 14
||| |||||
DB 61 CNDEGLECVPTTEES 74

RESULT 4
US-09-574-708A-11
Sequence 11, Application US/09574708A
Patent No. 6475796
GENERAL INFORMATION:
APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth factor
TITLE OF INVENTION: variants
FILE REFERENCE: SCIOS004A
CURRENT APPLICATION NUMBER: US/09/574,708A
CURRENT FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/135,312
PRIOR FILING DATE: 1999-05-20
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 11
LENGTH: 110
TYPE: PRT
ORGANISM: Homo sapiens
US-09-574-708A-11

Query Match 75.6%; Score 59; DB 4; Length 110;
Best Local Similarity 78.6%; Pred. No. 0.035;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRECVPTTEES 14
||| |||||
DB 61 CNDEGLECVPTTEES 74

RESULT 5
US-09-822-270-17
Sequence 17, Application US/09822270
Patent No. 6559126
GENERAL INFORMATION:
APPLICANT: TOURNAIRE, ROSELYNE
APPLICANT: DEMANGEL, CAROLINE
APPLICANT: DERBIN, CLAUDE
APPLICANT: PERRET, GERARD
APPLICANT: MAZIE, JEAN-CLAUDE
APPLICANT: PLOUET, JEAN
APPLICANT: VASSAY, ROGER
TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MI
TITLE OF INVENTION: ANGIOGENESIS, POLYNUCLEOTIDES ENCODING SAID PEPTIDES AND METI
FILE REFERENCE: 205060050
CURRENT APPLICATION NUMBER: US/09/822,270
CURRENT FILING DATE: 2001-04-02
PRIOR APPLICATION NUMBER: US 60/193,396
PRIOR FILING DATE: 2000-03-31
NUMBER OF SEQ ID NOS: 17
SOFTWARE: Patent in version 3.1
SEQ ID NO 17
LENGTH: 110
TYPE: PRT
ORGANISM: ARTIFICIAL SEQUENCE
FEATURE:
OTHER INFORMATION: SYNTHETIC PEPTIDE
US-09-822-270-17

Query Match 75.6%; Score 59; DB 4; Length 110;
Best Local Similarity 78.6%; Pred. No. 0.035;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRECVPTTEES 14
||| |||||
DB 61 CNDEGLECVPTTEES 74

RESULT 6
5194596-19

Patent No. 5194596
; APPLICANT: FISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; C. MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
; GROWTH FACTOR
; NUMBER OF SEQUENCES: 32
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/450,883
; FILING DATE: 14-DEC-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 387,545
; FILING DATE: 27-JUL-1989
; SEQ ID NO:19:
; LENGTH: 121
5194596-19

Query Match 75.6%; Score 59; DB 6; Length 121;
Best Local Similarity 78.6%; Pred. No. 0.038;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRCEVPTES 14
||| |||||
Db 61 CNDEGLECVPTES 74

RESULT 7

5219739-20
Patent No. 5219739
; APPLICANT: FISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
; JOHN C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING BVGEF120 AND
; BVGEF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
; VASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVGEF120 AND BVGEF121
; NUMBER OF SEQUENCES: 40
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/559,041
; FILING DATE: 27-JUL-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 450,883
; FILING DATE: 14-DEC-1989
; APPLICATION NUMBER: 387,545
; FILING DATE: 27-JUL-1989
; SEQ ID NO:20:
; LENGTH: 121
5219739-20

Query Match 75.6%; Score 59; DB 6; Length 121;
Best Local Similarity 78.6%; Pred. No. 0.038;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRCEVPTES 14
||| |||||
Db 61 CNDEGLECVPTES 74

RESULT 8

US-09-037-983C-15
; Sequence 15, Application US/09037983C
; Patent No. 6583276
; GENERAL INFORMATION:
; APPLICANT: Newfield, Gera
; APPLICANT: Keshet, Eli
; APPLICANT: Vlodavsky, Israel
; APPLICANT: Poltorak, Zoya
; TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
; FILE REFERENCE: 000274-00009
; CURRENT APPLICATION NUMBER: US/09/037,983C
; CURRENT FILING DATE: 1998-03-11
; PRIOR APPLICATION NUMBER: 60/025,537
; PRIOR FILING DATE: 1996-09-06
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 15

; LENGTH: 136
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-037-983C-15

Query Match 75.6%; Score 59; DB 4; Length 136;
Best Local Similarity 78.6%; Pred. No. 0.043;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRCEVPTES 14
||| |||||
Db 61 CNDEGLECVPTES 74

RESULT 9

US-09-037-983C-17
; Sequence 17, Application US/09037983C
; Patent No. 6583276
; GENERAL INFORMATION:
; APPLICANT: Newfield, Gera
; APPLICANT: Keshet, Eli
; APPLICANT: Vlodavsky, Israel
; APPLICANT: Poltorak, Zoya
; TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
; FILE REFERENCE: 000274-00009
; CURRENT APPLICATION NUMBER: US/09/037,983C
; CURRENT FILING DATE: 1998-03-11
; PRIOR APPLICATION NUMBER: 60/025,537
; PRIOR FILING DATE: 1996-09-06
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 17
; LENGTH: 137
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-037-983C-17

Query Match 75.6%; Score 59; DB 4; Length 137;
Best Local Similarity 78.6%; Pred. No. 0.043;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRCEVPTES 14
||| |||||
Db 61 CNDEGLECVPTES 74

RESULT 10

US-09-037-983C-16
; Sequence 16, Application US/09037983C
; Patent No. 6583276
; GENERAL INFORMATION:
; APPLICANT: Newfield, Gera
; APPLICANT: Keshet, Eli
; APPLICANT: Vlodavsky, Israel
; APPLICANT: Poltorak, Zoya
; TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
; FILE REFERENCE: 000274-00009
; CURRENT APPLICATION NUMBER: US/09/037,983C
; CURRENT FILING DATE: 1998-03-11
; PRIOR APPLICATION NUMBER: 60/025,537
; PRIOR FILING DATE: 1996-09-06
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 16
; LENGTH: 138
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-037-983C-16

Query Match 75.6%; Score 59; DB 4; Length 138;
Best Local Similarity 78.6%; Pred. No. 0.044;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CENSEMRECVPTES 14
||| |||||
Db 61 CNDEGLECVPTES 74

RESULT 11

US-09-519-476-2
; Sequence 2, Application US/09519476
; Patent No. 6508884
; GENERAL INFORMATION:
; APPLICANT: MINTZ, Liat et al.
; TITLE OF INVENTION: NOVEL NUCLEIC ACID AND AMINO ACID SEQUENCES
; FILE REFERENCE: 2786-0149P
; CURRENT APPLICATION NUMBER: US/09/519,476
; CURRENT FILING DATE: 2000-03-09
; PRIOR APPLICATION NUMBER: IL128852
; PRIOR FILING DATE: 1999-03-05
; NUMBER OF SEQ ID NOS: 2
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 2
; LENGTH: 141
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-519-476-2

Query Match 75.6%; Score 59; DB 4; Length 141;
Best Local Similarity 78.6%; Pred. No. 0.045;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CENSEMRECVPTES 14
||| |||||
Db 87 CNDEGLECVPTES 100

RESULT 12

US-08-784-551C-2
; Sequence 2, Application US/08784551C
; Patent No. 6013780
; GENERAL INFORMATION:
; APPLICANT: Gera Neufeld
; APPLICANT: Eli Keshet
; APPLICANT: Israel Vlodavsky
; APPLICANT: Zoya Poltorak
; TITLE OF INVENTION: ANGIOGENIC FACTOR AND USE THEREOF
; TITLE OF INVENTION: IN TREATING CARDIOVASCULAR DISEASE
; NUMBER OF SEQUENCES: 9
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Blank, Rome, Comisky & McCauley LLP
; STREET: 900 17th Street, N.W.
; STREET: Suite 1000
; CITY: Washington, D.C.
; STATE: N/A
; COUNTRY: U.S.A.
; ZIP: 20006
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSeq for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/784,551C
; FILING DATE: January 21, 1997
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Cohen, Herbert
; REGISTRATION NUMBER: 25,109
; REFERENCE/DOCKET NUMBER: 0274.005/P003
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202) 463-7700

; TELEFAX: (202) 463-6915
; TELEX:
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 145 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
US-08-784-551C-2

Query Match 75.6%; Score 59; DB 3; Length 145;
Best Local Similarity 78.6%; Pred. No. 0.046;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CENSEMRECVPTES 14
||| |||||
Db 61 CNDEGLECVPTES 74

RESULT 13

US-09-392-932-2
; Sequence 2, Application US/09392932
; Patent No. 6352975
; GENERAL INFORMATION:
; APPLICANT: Schreiner, George F.
; APPLICANT: Johnson, Richard J.
; TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
; TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
; FILE REFERENCE: SCIOS 002A
; CURRENT APPLICATION NUMBER: US/09/392,932
; CURRENT FILING DATE: 1999-09-09
; EARLIER APPLICATION NUMBER: 60/099,694
; EARLIER FILING DATE: 1998-09-09
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 145
; TYPE: PRT
; ORGANISM: Homo Sapiens
US-09-392-932-2

Query Match 75.6%; Score 59; DB 4; Length 145;
Best Local Similarity 78.8%; Pred. No. 0.046;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CENSEMRECVPTES 14
||| |||||
Db 61 CNDEGLECVPTES 74

RESULT 14

US-09-574-708A-4
; Sequence 4, Application US/09574708A
; Patent No. 6475796
; GENERAL INFORMATION:
; APPLICANT: N. Stephen Pollitt
; APPLICANT: Judith A. Abraham
; TITLE OF INVENTION: Vascular endothelial growth factor
; TITLE OF INVENTION: variants
; FILE REFERENCE: SCIOS004A
; CURRENT APPLICATION NUMBER: US/09/574,708A
; CURRENT FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/135,312
; PRIOR FILING DATE: 1999-05-20
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 145
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-574-708A-4

Query Match 75.6%; Score 59; DB 4; Length 145;

Best Local Similarity 78.6%; Pred. No. 0.046;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CENSEMRECVPTES 14
DB 61 CNDEGLECVPTES 74

RESULT 15
US-09-037-983C-2
; Sequence 2, Application US/09037983C
; Patent No. 6583276
; GENERAL INFORMATION:
; APPLICANT: Newfeld, Gera
; APPLICANT: Keshet, Eli
; APPLICANT: Vlodavsky, Israel
; APPLICANT: Poltorak, Zoya
; TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
; FILE REFERENCE: 000274-00009
; CURRENT APPLICATION NUMBER: US/09/037,983C
; CURRENT FILING DATE: 1998-03-11
; PRIOR APPLICATION NUMBER: 60/025,537
; PRIOR FILING DATE: 1996-09-06
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO. 2
; LENGTH: 145
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-037-983C-2

Query Match 75.6%; Score 59; DB 4; Length 145;
Best Local Similarity 78.6%; Pred. No. 0.046;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CENSEMRECVPTES 14
DB 61 CNDEGLECVPTES 74

Search completed: July 24, 2003, 14:51:29
Job time : 17.9412 secs

GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.

OM protein - protein search, using sw model

Run on: July 24, 2003, 14:42:56 ; Search time 10.7059 Seconds
(without alignments)
125.759 Million cell updates/sec

Title: PEP1
Perfect score: 78
Sequence: 1 CNSEMRBCVPTES 14

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283308 seqs, 96168682 residues
Total number of hits satisfying chosen parameters: 283308

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_76:.*
1: pir1.*
2: pir2.*
3: pir3.*
4: pir4.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	59	75.6	232	A41551	vascular endotheli
2	57	73.1	120	A33787	vascular endotheli
3	57	73.1	133	B49530	ovine vascular end
4	57	73.1	146	S57956	vascular endotheli
5	57	73.1	190	B40080	vascular endotheli
6	56	71.8	190	B44881	glioma-derived vas
7	56	71.8	190	A35987	vascular endotheli
8	56	71.8	214	A44881	vascular endotheli
9	55	70.5	190	S2130	aminotransferase,
10	42	53.8	389	H22448	hypothetical prote
11	41	52.6	-276	E84373	hypothetical prote
12	40	51.3	1361	S50943	protein-tyrosine-p
13	40	51.3	1436	TC5290	serine proteinase
14	40	51.3	1548	S34583	hypothetical prote
15	39.5	50.6	191	AB1800	hypothetical prote
16	39	50.0	217	T24867	hypothetical prote
17	39	-50.0	657	A53545	protein p84 - huma
18	39	50.0	713	JE0230	NADPH-cytochrome p
19	39	50.0	1106	T04015	hypothetical prote
20	39	50.0	3507	T34513	hypothetical prote
21	38	48.7	138	TTTUB	thyrotropin beta c
22	38	48.7	138	TTTBOB	thyrotropin beta c
23	38	48.7	138	TTTBOB	thyrotropin beta c
24	38	48.7	249	T24604	hypothetical prote
25	38	48.7	300	T49748	hypothetical prote
26	38	48.7	448	C81718	signal recognition
27	38	48.7	459	B72361	conserved hypothet
28	38	48.7	559	C9HU	complement C9 prec
29	38	48.7	660	T38294	sec-7 cytohesin-li

ALIGNMENTS

RESULT 1

A41551
vascular endothelial growth factor 206 precursor - human
N:Alternate names: vascular permeability factor
N:Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF 189;
C:Species: Homo sapiens (man)
C>Date: 28-Aug-1992 #sequence_revision 28-Aug-1992 #text_change 05-Nov-1999
C:Accession: A41551; C41551; B41551; A40454; B40454; A40079; A40080; J0146;
R:Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.
Mol. Endocrinol. 5, 1806-1814, 1991
A>Title: The vascular endothelial growth factor family: identification of a fourth
A:Reference number: A41551; MUID: 92168017; PMID:1791831
A:Accession: A41551
A:Molecule type: mRNA
A:Residues: 1-232 <HOU1>
A:Cross-references: GB:S85192; NID:g246155; PID:g246156
A:Accession: C41551
A>Status: nucleic acid sequence not shown
A:Molecule type: mRNA
A:Residues: 1-140, N', 183-232 <HOU2>
A:Accession: B41551
A>Status: nucleic acid sequence not shown, not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-141, 227-232 <HOU>
R:Tischer, E.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.;
J. Biol. Chem. 266, 11947-11954, 1991
A>Title: The human gene for vascular endothelial growth factor. Multiple protein f
A:Reference number: A40454; MUID: 91268072; PMID:1711045
A:Accession: A40454
A:Molecule type: DNA
A:Residues: 1-165, 183-232 <T11>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M639;
A:Accession: B40454
A:Molecule type: DNA
A:Residues: 1-140, N', 183-232 <T12>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M639;
A:Accession: C40454
A:Molecule type: DNA
A:Residues: 1-141, 227-232 <T13>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M639;
R:Keck, P.J.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly,
Science 246, 1309-1312, 1989
A>Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF
A:Reference number: A40079; MUID: 90069609; PMID:2479987
A:Accession: A40079
A>Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-165, 183-232 <KEC>
A:Cross-references: GB:M27281; NID:g340300; PIDN:AAA36807.1; PID:g340301
R:Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
Science 246, 1306-1309, 1989
A>Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.

A:Reference number: A40080; MUID:90069608; PMID:2479986
A:Accession: A40080
A:Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 183-232 <LEU>
A:Cross-references: GB:M32977; NID:g181970; PIDN:AAA35789.1; PID:g181971
R:Weinidel, K.; Marme, D.; Welch, H.A.
Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
A:Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial
A:Reference number: JQ1463; MUID:92231879; PMID:1567395
A:Accession: JQ1463
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 183-232 <WEI>
A:Cross-references: EMBL:X62568; NID:g37658; PIDN:CAA44447.1; PID:g37659
A:Experimental source: AIDS-Kaposi's sarcoma cell
A:Accession: JQ1464
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 227-232 <WE2>
A:Experimental source: AIDS-Kaposi's sarcoma cell
R:Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monsell, R.; Siegel, N.; Hay
J. Biol. Chem. 264, 20017-20024, 1989
A:Title: Human vascular permeability factor. Isolation from U937 cells.
A:Reference number: A34492; MUID:90062112; PMID:2584205
A:Accession: A34492
A:Molecule type: protein
A:Residues: 27-36; 43-49, 'R', 72-76, 'Q', 78-81; 59-71 <CON>
C:Comment: The most common of several alternatively spliced forms is VEGF 165.
C:Genetics:
A:Gene: GDB:VEGF
A:Cross-references: GDB:I32244; OMIM:192240
A:Map position: 6p21-6p12
C:Function:
A:Description: promotes fluid and protein leakage from blood vessels
A:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular pr
F:1-232/Product: vascular endothelial growth factor 206 precursor #status predicted <V2
F:1-165,183-232/Product: vascular endothelial growth factor 189 precursor #status predic
F:1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status predic
F:1-26/Domain: signal sequence #status predicted <SIG>
F:101/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 75.68; Score 59; DB 2; Length 232;
Best Local Similarity 78.68; Pred. No. 0.021;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNSEMRCPVPTES 14
||| |||||
Db 87 CNDSLECVPTES 100

RESULT 2
A33787
vascular endothelial growth factor (version 1) - bovine
C:Species: Bos primigenius taurus (cattle)
C:Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
C:Accession: A33787
R:Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Crisp
Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A:Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
A:Reference number: A33787; MUID:90121225; PMID:2610687
A:Accession: A33787
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-120 <TIS>
A:Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
C:Keywords: alternative splicing

Query Match 73.18; Score 57; DB 2; Length 120;
Best Local Similarity 76.98; Pred. No. 0.024;
Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNSEMRCPVPTES 13
||| |||||
Db 60 CNDSLECVPTES 72

RESULT 3
B49530
vascular endothelial growth factor; homolog A2R, 14.7K - Orf virus
C:Species: Orf virus
C:Date: 07-Apr-1994 #sequence_revision 18-Nov-1994 #text_change 08-Oct-1999
C:Accession: B49530
R:Lytile, D.J.; Fraser, K.M.; Fleming, S.B.; Mercer, A.A.; Robinson, A.J.
J. Virol. 68, 84-92, 1994
A:Title: Homologs of vascular endothelial growth factor are encoded by the poxvirus
A:Reference number: A49530; MUID:94076465; PMID:8254780
A:Contents: N22
A:Accession: B49530
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-133 <LYT>
A:Cross-references: GB:S67520; NID:g456897; PIDN:AA29220.1; PID:g456899
A:Note: sequence inconsistent with nucleotide translation
A:Note: sequence extracted from NCBI backbone (NCBIN:141420, NCBIP:141425)

Query Match 73.18; Score 57; DB 2; Length 133;
Best Local Similarity 76.98; Pred. No. 0.027;
Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNSEMRCPVPTES 13
||| |||||
Db 71 CNDSLECVPTES 83

RESULT 4
S57956
ovine vascular endothelial growth factor - sheep
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C:Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text_change 05-Nov-1999
C:Accession: S57956
R:Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M.
submitted to the EMBL Data Library, July 1995
A:Reference number: S57956
A:Accession: S57956
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-146 <RED>
A:Cross-references: EMBL:X89506; NID:g899350; PIDN:CAA61677.1; PID:g899351

Query Match 73.18; Score 57; DB 2; Length 146;
Best Local Similarity 76.98; Pred. No. 0.029;
Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNSEMRCPVPTES 13
||| |||||
Db 86 CNDSLECVPTES 98

RESULT 5
B40080
vascular endothelial growth factor precursor (version 2) - bovine
C:Species: Bos primigenius taurus (cattle)
C:Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999
C:Accession: B40080; B33787; A33255
R:Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
Science 246, 1306-1309, 1989
A:Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
A:Reference number: A40080; MUID:90069608; PMID:2479986
A:Accession: B40080
A:Molecule type: mRNA
A:Residues: 1-190 <LEU>
A:Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
R:Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Cr
Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A:Title: Vascular endothelial growth factor: a new member of the platelet-derived grc
A:Reference number: A33787; MUID:90121225; PMID:2610687
A:Accession: B33787

A:Molecule type: mRNA

A:Residues: 27-190 <RIS>

A:Cross-references: GB:M31836; MID:g163808; PIDN:AAA30804.1; PID:g163809

R:Ferrara, N.; Henzel, W.J.

Biochem. Biophys. Res. Commun. 161, 851-858, 1989

A:Title: Pituitary follicular cells secrete a novel heparin-binding growth factor specific

A:Reference number: A33255; MUID:89286596; PMID:2735925

A:Accession: A33255

A:Molecule type: protein

A:Residues: 27-31 <PER>

C:Keywords: alternative splicing; glycoprotein

F:1-26/Domain: signal sequence #status predicted <SIG>

F:27-190/Product: vascular endothelial growth factor #status predicted <MAT>

F:100/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 73.1%; Score 57; DB 2; Length 190;

Best Local Similarity 76.9%; Pred. No. 0.037; Mismatches 0; Indels 3; Gaps 0;

Matches 10; Conservative 0; Mismatches 0; Indels 3; Gaps 0;

QY 1 CNSEMRCPVTEP 13

DB 86 CNDELECPVTEP 98

RESULT 6

B44881

vascular endothelial growth factor-1 precursor - mouse

C:Species: Mus musculus (house mouse)

C:Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999

C:Accession: B44881; A43351; A61029

R:Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.

Development 114, 521-532, 1992

A:Title: Expression of vascular endothelial growth factor during embryonic angiogenesis

A:Reference number: A44881; MUID:92274860; PMID:1592003

A:Accession: B44881

A:Molecule type: mRNA

A:Residues: 1-190 <BRE>

A:Cross-references: GB:S38083; MID:g249858; PIDN:AAB22253.1; PID:g249859

A:Experimental source: embryo

A:Note: sequence extracted from NCBI backbone (NCBIN:107622, NCBIP:107623)

R:Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M.

J. Biol. Chem. 267, 16317-16322, 1992

A:Title: Vascular endothelial growth factor. Regulation by cell differentiation and acti

A:Reference number: A43351; MUID:92355593; PMID:1644816

A:Accession: A43351

A:Molecule type: mRNA

A:Residues: 1-116, ER, 119-190 <CLA>

A:Cross-references: GB:M95200; MID:g202350; PIDN:AAA40547.1; PID:g202351

A:Note: sequence extracted from NCBI backbone (NCBIN:110665, NCBIP:110675)

R:Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.; Folkman, J.

Growth Factors 4, 53-59, 1990

A:Title: Conditioned medium from mouse sarcoma 180 cells contains vascular endothelial g

A:Reference number: A61029; MUID:91197543; PMID:2085441

A:Accession: A61029

A:Molecule type: protein

A:Residues: 27-38 <ROS>

C:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; glycoprotein; mit

Query Match

Best Local Similarity 71.4%; Score 56; DB 2; Length 190;

Matches 10; Conservative 0; Mismatches 4; Indels 4; Gaps 0;

QY 1 CNSEMRCPVTEP 14

DB 86 CNDELECPVTEP 99

RESULT 7

A35987

glioma-derived vascular endothelial cell growth factor - rat

C:Species: Rattus norvegicus (Norway rat)

C:Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999

C:Accession: A35987

R:Conn, G.; Bayne, M.L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K.A.; Palisi, T.M.; Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990

A:Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that

A:Reference number: A35987; MUID:90207249; PMID:2320579

A:Accession: A35987

A>Status: Preliminary

A:Molecule type: mRNA

A:Residues: 1-190 <CON>

A:Cross-references: GB:M32167; MID:g204287; PIDN:AAA41211.1; PID:g204288

Query Match 71.8%; Score 56; DB 2; Length 190;

Best Local Similarity 71.4%; Pred. No. 0.054; Mismatches 0; Indels 4; Gaps 0;

Matches 10; Conservative 0; Mismatches 4; Indels 4; Gaps 0;

QY 1 CNSEMRCPVTEP 14

DB 86 CNDELECPVTEP 99

RESULT 8

A44881

vascular endothelial growth factor-3 precursor - mouse

N:Contains: vascular endothelial growth factor-2; vascular permeability factor

C:Species: Mus musculus (house mouse)

C:Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 08-Oct-1999

C:Accession: A44881; A40932; S52136

R:Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.

Development 114, 521-532, 1992

A:Title: Expression of vascular endothelial growth factor during embryonic angioge

A:Reference number: A44881; MUID:92274860; PMID:1592003

A:Accession: A44881

A:Molecule type: mRNA

A:Residues: 1-214 <BRE>

A:Cross-references: GB:S37052; MID:g249856; PIDN:AAB22252.1; PID:g249857

A:Experimental source: embryo

A:Note: sequence extracted from NCBI backbone (NCBIN:104677, NCBIP:104678)

A:Accession: A44881

A:Molecule type: mRNA

A:Residues: 1-140, 209-214 <BR2>

A:Cross-references: GB:S38100; MID:g249860; PIDN:AAB22254.1; PID:g249861

A:Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBIP:107625)

R:Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; Familletti, P.C.; Pan.

J. Exp. Med. 172, 1535-1545, 1990

A:Title: Vascular permeability factor: a tumor-derived polypeptide that induces en

A:Reference number: A60932; MUID:91079755; PMID:2258694

A:Accession: A60932

A:Molecule type: protein

A:Residues: 27-33 <CLA>

R:Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa, R.

Biochim. Biophys. Acta 1224, 365-370, 1994

A:Title: Enhanced expression of multiple forms of VEGF is associated with spontan

A:Reference number: S52136; MUID:95101726; PMID:7803491

A:Accession: S52136

A>Status: preliminary

A:Molecule type: protein

A:Residues: 27-46 <SUG>

C:Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3.

C:Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homox

F:1-26/Domain: signal sequence #status predicted <SIG>

F:27-214/Product: vascular endothelial growth factor-3 #status experimental <MAT>

Query Match

Best Local Similarity 71.4%; Score 56; DB 2; Length 214;

Matches 10; Conservative 0; Mismatches 4; Indels 4; Gaps 0;

QY 1 CNSEMRCPVTEP 14

DB 86 CNDELECPVTEP 99

RESULT 9

S52130

vascular endothelial growth factor - pig

C:Species: Sus scrofa domestica (domestic pig)
 C:Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
 C:Accession: S52130
 R:Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
 Biochim. Biophys. Acta 1260, 235-238, 1995
 A:Title: Nucleotide sequence and expression of the porcine vascular endothelial growth factor
 A:Reference number: S52130; MUID:95143284; PMID:7841203.
 A:Accession: S52130
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-190 <SHA>
 A:Cross-references: GB:X81380; NID:g587559; PIDN:CAA57143.1; PID:g587560

Query Match 70.58; Score 55; DB 2; Length 190;
 Best Local Similarity 76.98; Pred. No. 0.079;
 Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

OY 1 CNSEMRCPVTEE 13
 DB 86 CNDEGLECVPTTEE 98

RESULT 10

H82448
 aminotransferase, class II VCA0523 [imported] - Vibrio cholerae (strain N16961 serogroup O1)
 C:Species: Vibrio cholerae
 C:Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 02-Feb-2001
 C:Accession: H82448
 R:Heidelberg, J.F.; Eisen, J.A.; Nelson, W.C.; Clayton, R.A.; Gwinn, M.L.; Dodson, R.J.; Church, D.; Ermolaeva, M.D.; Vamathevan, J.; Bass, S.; Qin, H.; Dragol, I.; Sellers, J.; R.R.; Mekalanos, J.J.; Venter, J.C.; Fraser, C.M.
 Nature 406, 477-483, 2000
 A:Title: DNA Sequence of both chromosomes of the cholera pathogen Vibrio cholerae.
 A:Reference number: A82035; MUID:20406833; PMID:10952301
 A:Accession: H82448
 A:Status: preliminary
 A:Molecule type: DNA
 A:Residues: 1-389 <HEI>
 A:Cross-references: GB:AE004383; GB:AE003853; NID:g9657927; PIDN:AAF96436.1; GSPDB:GN001
 A:Experimental source: serogroup O1; strain N16961; biotype El Tor
 C:Genetics:
 A:Gene: VCA0523
 A:Map position: 2

Query Match 53.88; Score 42; DB 2; Length 389;
 Best Local Similarity 60.08; Pred. No. 21;
 Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

OY 1 CNSEMRCPV 10
 DB 247 CNNEVNRCPV 256

RESULT 11

E84373
 hypothetical protein Vng2230h [imported] Halobacterium sp. NRC-1
 C:Species: Halobacterium sp. NRC-1
 C:Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 02-Feb-2001
 C:Accession: E84373
 R:Ng, W.V.; Kennedy, S.P.; Mahairas, G.G.; Berquist, B.; Pan, M.; Shukla, H.D.; Lasky, S.; Leithauser, B.; Keller, K.; Cruz, R.; Danson, M.J.; Hough, D.W.; Maddocks, D.G.; Jablon, K.H.; Alam, M.; Freitas, T.
 Proc. Natl. Acad. Sci. U.S.A. 97, 12176-12181, 2000
 A:Authors: Hou, S.; Daniels, C.J.; Dennis, P.P.; Omer, A.D.; Ebhardt, H.; Lowe, T.M.; Li
 A:Title: Genome sequence of Halobacterium species NRC-1.
 A:Reference number: A84160; MUID:20504483; PMID:11016950
 A:Accession: E84373
 A:Status: preliminary
 A:Molecule type: DNA
 A:Residues: 1-276 <SPO>
 A:Cross-references: GB:AE004437; NID:g10581644; PIDN:AAG20353.1; GSPDB:GN00138
 C:Genetics:
 A:Gene: VNG2230H

Query Match 52.68; Score 41; DB 2; Length 276;
 Best Local Similarity 58.38; Pred. No. 23;
 Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

OY 3 SEMRECVPTTES 14
 DB 34 SELRECVVDQDS 45

RESULT 12

S50943
 hypothetical protein YML049c - yeast (Saccharomyces cerevisiae)
 A:Alternate names: hypothetical protein YM9827.03c
 C:Species: Saccharomyces cerevisiae
 C:Date: 10-Feb-1995 #sequence_revision 12-May-1995 #text_change 29-Oct-1999
 C:Accession: S50943
 R:Odell, C.; Bowman, S.
 submitted to the EMBL Data Library, January 1995
 A:Reference number: S50941
 A:Accession: S50943
 A:Molecule type: DNA
 A:Residues: 1-1361 <ODE>
 A:Cross-references: EMBL:247816; NID:g642303; PIDN:CAA87825.1; PID:g642306; MIPS:YML
 C:Genetics:
 A:Gene: SGD:RSE1
 A:Cross-references: SGD:S0004513; MIPS:YML049c
 A:Map position: 13L

Query Match 51.38; Score 40; DB 2; Length 1361;
 Best Local Similarity 50.08; Pred. No. 1.4e+02;
 Matches 7; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

OY 1 CNSEMRCPVPTTES 14
 DB 603 CTALRHIVPTGKS 616

RESULT 13

JC5290
 protein-tyrosine-phosphatase (EC 3.1.3.48) - human
 A:Alternate names: Phosphotyrosine phosphatase
 C:Species: Homo sapiens (man)
 C:Date: 16-Apr-1997 #sequence_revision 09-May-1997 #text_change 21-Jan-2000
 C:Accession: JC5290
 R:Wang, B.; Kishihara, K.; Zhang, D.; Hara, H.; Nomoto, K.
 Biochem. Biophys. Res. Commun. 231, 77-81, 1997
 A:Title: Molecular cloning and characterization of a novel human receptor protein tyrosine phosphatase from human cells.
 A:Reference number: JC5290; MUID:97223402; PMID:9070223
 A:Accession: JC5290
 A:Molecule type: mRNA
 A:Residues: 1-1436 <WAN>
 A:Cross-references: GB:U73727; NID:g1923222; PIDN:AAB51343.1; PID:g1923223
 C:Comment: This enzyme belongs to type II receptor protein tyrosine phosphatase which and an immunoglobulin-like domains.
 C:Genetics:
 A:Gene: hppp-J

C:Superfamily: protein-tyrosine-phosphatase, receptor type mu; fibronectin type III r-tyrosine-phosphatase homology
 C:Keywords: phosphoprotein; phosphoric monoester hydrolase; tyrosine-specific phosphatase
 F:22-188/Domain: MAM homology <NAN>
 F:203-266/Domain: immunoglobulin homology <IMM>
 F:288-366/Domain: fibronectin type III repeat homology <3FR>
 F:826-1436/Domain: leukocyte common antigen cytosolic domain homology <LAC>
 F:903-1123/Domain: protein-tyrosine-phosphatase homology <PTP1>
 F:1193-1418/Domain: protein-tyrosine-phosphatase homology <PTP2>
 F:1075/Active site: Cys (phosphocysteine intermediate) #status Predicted
 F:1081/Binding site: substrate phosphate (Arg) #status Predicted
 F:1370/Active site: Cys (phosphocysteine intermediate) #status Predicted
 F:1376/Binding site: substrate phosphate (Arg) #status Predicted

Query Match 51.38; Score 40; DB 2; Length 1436;

Best Local Similarity 58.3%; Pred. No. 1.5e+02;
Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 2 NSEMRECVPTTE 13
Db 432 NOTIRECVKTEQ 443

RESULT 14

S34583
serine proteinase (EC 3.4.21.-) PC68 - mouse
C:Species: Mus musculus (house mouse)
C:Date: 02-Dec-1993 #sequence_revision 10-Nov-1995 #text_change 05-Nov-1999
C:Accession: S34583
R:Nakagawa, T.; Murakami, K.; Nakayama, K.
FEBS Lett. 327, 165-171, 1993
A:Title: Identification of an isoform with an extremely large Cys-rich region of PC6, a
A:Reference number: S34583; MUID:93327934; PMID:8335106
A:Accession: S34583
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-1548 <NAK>
A:Cross-references: GB:DL17583; NID:9407344; PIDN:BAA04507.1; PID:dl005033; PID:g440374
C:Keywords: hydrolase; serine proteinase

Query Match 51.3%; Score 40; DB 2; Length 1548;

Best Local Similarity 58.3%; Pred. No. 1.6e+02;
Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 2 NSEMRECVPTTE 13
Db 702 DSEYECMPCEE 713

RESULT 15

AB1800
hypothetical protein lin2945 [imported] - Listeria innocua (strain Clip11262)
C:Species: Listeria innocua
C:Date: 27-Nov-2001 #sequence_revision 27-Nov-2001 #text_change 27-Nov-2001
C:Accession: AB1800
R:Glaser, P.; Frangeul, L.; Buchrieser, C.; Amend, A.; Baquero, F.; Berche, P.; Bloeker
.; Dominguez-Bernal, G.; Duchaud, E.; Durand, L.; Dussurget, O.; Entian, K.D.; Fsihl, H.
D.; Jones, L.M.; Karst, U.
Science 294, 849-852, 2001
A:Authors: Kreft, J.; Kuhn, M.; Kunst, F.; Kurapkat, G.; Madueno, E.; Maitournam, A.; Ma
ok C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehland,
A:Title: Comparative genomics of Listeria species.
A:Reference number: AB1077; MUID:21537279; PMID:11679669
A:Accession: AB1800
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-191 <GLA>
A:Cross-references: GB:AL592022; PIDN:CAC98170.1; PID:g16415486; GSPDB:GNC00178
A:Experimental source: strain Clip11262
C:Genetics:
A:Gene: lin2945

Query Match 50.6%; Score 39.5; DB 2; Length 191;

Best Local Similarity 52.9%; Pred. No. 29;
Matches 9; Conservative 2; Mismatches 3; Indels 3; Gaps 1;

QY 1 CNSEMR--CVPTTES 14
Db 50 CNAEYAEINLCVNTTEA 66

Search completed: July 24, 2003, 14:50:48
Job time : 11.7059 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 24, 2003, 14:08:59 ; Search time 10.7059 seconds
(without alignments)
61.496 Million cell updates/sec

Title: PEPL
Perfect score: 78
Sequence: 1 CENSEMRECVPTES 14

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 127863 seqs, 47026705 residues

Total number of hits satisfying chosen parameters: 127863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_41*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Query	Score	Match	Length	ID	Description
1	59	75.6	232	1	VEGA_HUMAN	P15692 homo sapien
2	57	73.1	133	1	VEGH_ORFN2	P52584 orf virus (
3	57	73.1	146	1	VEGA_SHEEP	P50412 ovis aries
4	57	73.1	164	1	VEGA_CAVPO	P26617 cavia porce
5	57	73.1	190	1	VEGA_BOVIN	P15691 bos taurus
6	56	71.8	214	1	VEGA_MOUSE	Q00731 mus musculu
7	56	71.8	214	1	VEGA_RAT	P16612 rattus norv
8	55	70.5	190	1	VEGA_PIG	P49151 sus scrofa
9	55	70.5	214	1	VEGA_CANFA	Q9myv3 canis fami
10	51	65.4	190	1	VEGA_MESAU	Q99psl mesocricetu
11	49	62.8	190	1	VEGA_HORSE	Q9qkro equus cabal
12	40	51.3	1361	1	YME9_YEAST	Q04693 saccharomyc
13	40	51.3	1430	1	PPPU_HUMAN	Q92729 homo sapien
14	40	51.3	1877	1	PKCS_MOUSE	Q04592 mus musculu
15	38	48.7	138	1	TSHB_BOVIN	P01223 bos taurus
16	38	48.7	138	1	TSHB_HORSE	Q28376 equus cabal
17	38	48.7	138	1	TSHB_HUMAN	P01222 homo sapien
18	38	48.7	138	1	TSHB_LAMGL	P79357 lama glama
19	38	48.7	138	1	TSHB_PIG	P01224 sus scrofa
20	38	48.7	547	1	C09_HORSE	P48770 equus cabal
21	38	48.7	559	1	C09_HUMAN	P02748 homo sapien
22	38	48.7	714	1	NCPR_CATRO	Q05001 catharanthu
23	38	48.7	756	1	EFER_HUMAN	Q05154 homo sapien
24	38	48.7	1082	1	SC73_SCHPO	O13817 schizosacch
25	37	47.4	149	1	PLGF_BOVIN	Q9xs47 bos taurus
26	37	47.4	197	1	HAN1_XENLA	O73615 xenopus lae
27	37	47.4	202	1	HAN1_CHICK	Q90691 gallus gall
28	37	47.4	204	1	HAN1_SHEEP	Q28555 ovis aries
29	37	47.4	208	1	HAN2_BRARE	P57102 brachydanio
30	37	47.4	210	1	HAN2_XENLA	P57101 xenopus lae
31	37	47.4	215	1	HAN1_HUMAN	O96004 homo sapien
32	37	47.4	215	1	HAN1_RABIT	P57100 oryctolagus
33	37	47.4	216	1	HAN1_MOUSE	Q64279 m heart- an

RESULT 1

ID	VEGA_HUMAN	STANDARD:	PRT:	232 AA
AC	P15692; O60720; O75875; Q16889; Q96NW5; Q9H1W8; Q9H1W9; Q9UH58; Q9UL23;			
DT	01-APR-1990 (Rel. 14, Created)			
DT	28-FEB-2003 (Rel. 41, Last sequence update)			
DT	15-SEP-2003 (Rel. 42, Last annotation update)			
DE	Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).			
DE	permeability factor) (VPF).			
GN	VEGF OR VEGFA.			
OS	Homo sapiens (Human).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Euthera; Primates; Catarrhini; Hominidae; Homo.			
OX	NCBI_TaxID=9606;			
RN	[1]			
RP	SEQUENCE FROM N.A. (ISOFORM VEGF189 AND VEGF165).			
RX	MEDLINE=90069608; PubMed=2479986;			
RA	Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara N.;			
RT	"Vascular endothelial growth factor is a secreted angiogenic mitogen.";			
RL	Science 246:1306-1309(1989).			
RN	[2]			
RP	SEQUENCE FROM N.A. (ISOFORM VEGF189), AND PARTIAL SEQUENCE.			
RX	MEDLINE=90069609; PubMed=2479987;			
RA	Keck P.J., Hauser S.D., Krivi G., Sanzo K., Warren T., Feder J., Connolly D.T.;			
RT	"Vascular permeability factor, an endothelial cell mitogen related to PDGF.";			
RL	Science 246:1309-1312(1989).			
RN	[3]			
RP	SEQUENCE FROM N.A. (ISOFORM VEGF189).			
RX	MEDLINE=91268072; PubMed=1711045;			
RA	Tischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D., Fiddes J.C., Abraham J.A.;			
RT	"The human gene for vascular endothelial growth factor. Multiple protein forms are encoded through alternative exon splicing.";			
RL	J. Biol. Chem. 266:11947-11954(1991).			
RN	[4]			
RP	SEQUENCE FROM N.A. (ISOFORM VEGF206).			
RX	MEDLINE=92168017; PubMed=1791831;			
RA	Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W.;			
RT	"The vascular endothelial growth factor family: identification of a fourth molecular species and characterization of alternative splicing of RNA.";			
RL	Mol. Endocrinol. 5:1806-1814(1991).			
RN	[5]			
RP	SEQUENCE FROM N.A. (ISOFORM VEGF165).			
RX	MEDLINE=92231879; PubMed=1567395;			
RA	Weindel K., Marme D., Weich H.A.;			
RT	"AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial growth factor.";			
RL	Biochem. Biophys. Res. Commun. 183:1167-1174(1992).			
RN	[6]			
RP	SEQUENCE FROM N.A. (ISOFORM VEGF145).			
RX	MEDLINE=97207275; PubMed=9054410;			

P97832 rattus norv
Q90690 gallus gall
Q95300 homo sapien
Q61039 m heart- an
P94131 acinetobact
P49767 homo sapien
Q95429 homo sapien
Q9V6D6 drosophila
P30431 bothrops ja
Q24568 drosophila
Q61092 mus musculu
P15725 rattus norv

ALIGNMENTS

34 37 47.4 216 1 HAN1_RAT
35 37 47.4 216 1 HAN2_CHICK
36 37 47.4 217 1 HAN2_HUMAN
37 37 47.4 217 1 HAN2_MOUSE
38 37 47.4 413 1 MOCK_ACICA
39 37 47.4 419 1 VEGC_HUMAN
40 37 47.4 457 1 BAG4_HUMAN
41 37 47.4 553 1 C301_DROME
42 37 47.4 571 1 DJST_BOTJA
43 37 47.4 793 1 NETB_DROME
44 37 47.4 1191 1 LMG2_MOUSE
45 36.5 46.8 271 1 TNR4_RAT

RA Poltorak Z., Cohen T., Sivan R., Kandelis Y., Spira G., Vlodavsky I.,
 RA Keshet E., Neufeld G.;
 RT "VEGF145, a secreted vascular endothelial growth factor isoform that
 RT binds to extracellular matrix.";
 RL J. Biol. Chem. 272:7151-7158(1997).
 RN [7]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF183).
 RC TISSUE-Kidney;
 RA Lei J., Jiang A., Pei D.;
 RA MEDLINE-99096474; PubMed-9878851;
 RT "Identification and characterization of a new splicing variant of
 RT vascular endothelial growth factor: VEGF183.";
 RL Biochim. Biophys. Acta 1443:400-406(1998).
 RN [8]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
 RC TISSUE-Breast;
 RA MEDLINE-98119755; PubMed-9450968;
 RA Claffey K.P., Shih S.-C., Mullen A., Dziennis S., Cusick J.L.,
 RA Abrams K.R., Lee S.W., Detmar M.;
 RT "Identification of a human VPF/VEGF 3' untranslated region mediating
 RT hypoxia-induced mRNA stability.";
 RL Mol. Biol. Cell 9:469-481(1998).
 RN [9]
 RP SEQUENCE OF 114-209 FROM N.A. (ISOFORM VEGF183).
 RC TISSUE-Retina;
 RA MEDLINE-99165303; PubMed-10067980;
 RA Jingjing L., Xue Y., Agarwal N., Roque R.S.;
 RT "Human Muller cells express VEGF183, a novel spliced variant of
 RT vascular endothelial growth factor.";
 RL Invest. Ophthalmol. Vis. Sci. 40:752-759(1999).
 RN [10]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
 RC TISSUE-Hemangioidendelioma;
 RA Murata H., Fukushima J., Hattori S., Okuda K., Yanagi H.;
 RT "Human cDNA for the vascular endothelial growth factor isoform
 RT VEGF165.";
 RL Submitted (DEC-1998) to the EMBL/GenBank/DBJ databases.
 RN [11]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF148).
 RC TISSUE-Renal glomerulus;
 RA MEDLINE-99394945; PubMed-10464055;
 RA Whittle C.J., Gillespie K.M., Harrison R., Mathieson P.W.,
 RA Harper S.J.;
 RT "Heterogeneous vascular endothelial growth factor (VEGF) isoform mRNA
 RT and receptor mRNA expression in human glomeruli, and the
 RT identification of VEGF148 mRNA, a novel truncated splice variant.";
 RL Clin. Sci. 97:303-312(1999).
 RN [12]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF121).
 RC Sato J.D., Whitney R.G.;
 RA "Human cDNA for vascular endothelial growth factor isoform VEGF121.";
 RT Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
 RN [13]
 RP SEQUENCE FROM N.A.
 RC Williams S.;
 RA Submitted (DEC-2000) to the EMBL/GenBank/DBJ databases.
 RN [14]
 RP SEQUENCE OF 23-232 FROM N.A. (VEGF165).
 RA Rieder M.J., Arnel T.Z., Carrington D.P., Chung M.-W., Lee K.L.,
 RA Poel C.L., Oth E.J., Yi Q., Nickerson D.A.;
 RL Submitted (Oct-2001) to the EMBL/GenBank/DBJ databases.
 RN [15]
 RP PRELIMINARY SEQUENCE OF 27-36; 43-50 AND 59-81.
 RA MEDLINE-90062112; PubMed-2584205;
 RA Connolly D.T., Olander J.V., Heuvelman D., Nelson R., Monsell R.,
 RA Siegel N., Haymore B.L., Leimgruber R., Feder J.;
 RT "Human vascular permeability factor: Isolation from U937 cells.";
 RL J. Biol. Chem. 264:20017-20024(1989).
 RN [16]
 RP SEQUENCE OF 27-41.
 RA MEDLINE-93145946; PubMed-7678805;
 RA Fiebig B.L., Jaeger B., Schoellmann C., Weindel K., Wiltling J.,
 RA Kochs G., Marme D., Hug H., Weich H.A.;

RT "Synthesis and assembly of functionally active human vascular
 RT endothelial growth factor homodimers in insect cells.";
 RL Eur. J. Biochem. 211:19-26(1993).
 RN [17]
 RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 34-135.
 RX MEDLINE-97352774; PubMed-9207067;
 RA Muller Y.A., Li B., Christinger H.W., Wells J.A., Cunningham B.C.,
 RA de Vos A.M.;
 RT "Vascular endothelial growth factor: crystal structure and functional
 RT mapping of the kinase domain receptor binding site.";
 RL Proc. Natl. Acad. Sci. U.S.A. 94:7192-7197(1997).
 RN [18]
 RP X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135.
 RX MEDLINE-98035455; PubMed-9351807;
 RA Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.;
 RT "The crystal structure of vascular endothelial growth factor (VEGF)
 RT refined to 1.93-A resolution: multiple copy flexibility and receptor
 RT binding.";
 RL Structure 5:1325-1338(1997).
 RN [19]
 RP X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134.
 RX MEDLINE-99119204; PubMed-9922142;
 RA Wiesmann C., Christinger H.W., Cochran A.G., Cunningham B.C.,
 RA Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.;
 RT "Crystal structure of the complex between VEGF and a receptor-blocking
 RT peptide.";
 RL Biochemistry 37:17765-17772(1998).
 RN [20]
 RP STRUCTURE BY NMR OF 34-135.
 RX MEDLINE-97477915; PubMed-9336848;
 RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
 RA Starovasnik M.A.;
 RT "1H, 13C, and 15N backbone assignment and secondary structure of the
 RT receptor-binding domain of vascular endothelial growth factor.";
 RL Protein Sci. 6:2250-2260(1997).
 RN [21]
 RP STRUCTURE BY NMR OF 137-215.
 RX MEDLINE-98298440; PubMed-9634701;
 RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
 RA Starovasnik M.A.;
 RT "Solution structure of the heparin-binding domain of vascular
 RT endothelial growth factor.";
 RL Structure 6:637-648(1998).
 RN [22]
 RP FUNCTION.
 RX MEDLINE-21320570; PubMed-11427521;
 RA Murphy J.F., Fitzgerald D.J.;
 RT "Vascular endothelial growth factor induces cyclooxygenase-dependent
 RT proliferation of endothelial cells via the VEGF-2 receptor.";
 RL FASEB J. 15:1667-1669(2001).
 CC CC
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin. Neuropilin-1 binds isoforms VEGF-165 and VEGF-145.
 CC CC
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PLGF (By similarity).
 CC CC
 CC -1- SUBCELLULAR LOCATION: VEGF121 is acidic and freely secreted.
 CC VEGF165 is more basic, has heparin-binding properties and,
 CC although a significant proportion remains cell-associated, most is
 CC freely secreted. VEGF189 is very basic; it is cell-associated
 CC after secretion and is bound avidly by heparin and the
 CC extracellular matrix, although it may be released as a soluble
 CC form by heparin, heparinase or plasmin.
 CC CC
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=7;
 CC Comment=Experimental confirmation may be lacking for some
 CC isoforms;
 CC Name=VEGF206;
 CC IsoId=P15692-1; Sequence=Displayed;
 CC Name=VEGF189;
 CC IsoId=P15692-2; Sequence=VSP_004622;

Query Match 75.6%; Score 59; DB 1; Length 232;
 Best Local Similarity 78.6%; Pred. No. 0.0073; 3; Indels 0; Gaps 0;
 Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRCPVTEES 14
 ||| |||||
 DB 87 CNDEGECVPTTEES 100

RESULT 2

VEGH_ORFN2 STANDARD; PRT; 133 AA.
 AC P52584;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Vascular endothelial growth factor homologue precursor.
 GN A2R.
 OS Orf virus (strain NZ2) (OV NZ-2).
 OC Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
 OC Parapoxvirus.
 OX NCBI_TaxID=10259;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=94076465; PubMed=8254780;
 RA Lytle D.J., Fraser K.M., Fleming S.B., Mercer A.A., Robinson A.J.;
 RT "Homologs of vascular endothelial growth factor are encoded by the
 RT poxvirus orf virus".
 RL J. Virol. 68:84-92(1994).
 CC -!- FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.
 CC -!- SUBUNIT: Homodimer; disulfide-linked (By similarity).
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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 CC or send an email to license@isb-sib.ch).
 CC EMBL; S67520; AAB29220.2;
 CC HSSP; P15692; 1VPP.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 KW Mitogen; Growth factor; Glycoprotein; Signal.
 FT SIGNAL 1 20 POTENTIAL.
 FT CHAIN 21 133 VASCULAR ENDOTHELIAL GROWTH FACTOR
 FT DISULFID 36 78 HOMOLOG.
 FT DISULFID 67 112 BY SIMILARITY.
 FT DISULFID 71 114 BY SIMILARITY.
 FT DISULFID 61 61 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 70 70 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 85 85 N-LINKED (GLCNAC...) (POTENTIAL).
 SQ SEQUENCE 133 AA; 14715 MW; 917C0F6883030C39 CRC64;

Query Match 73.1%; Score 57; DB 1; Length 133;
 Best Local Similarity 76.9%; Pred. No. 0.0091; 3; Indels 0; Gaps 0;
 Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRCPVTEES 13
 ||| |||||
 DB 71 CNDEGECVPTTEES 83

RESULT 3

VEGA_SHEEP STANDARD; PRT; 164 AA.

VEGA_SHEEP STANDARD; PRT; 146 AA.
 AC P50412;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
 DE permeability factor) (VPF).
 GN VEGF OR VEGFA.
 OS Ovis aries (Sheep).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Caprinae; Ovis.
 OX NCBI_TaxID=9940;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=97117958; PubMed=8958842;
 RA Redmer D.A., Dai Y., Li J., Charnock-Jones D.S., Smith S.K.,
 RA Reynolds L.P., Moor R.M.;
 RT "Characterization and expression of vascular endothelial growth
 RT factor (VEGF) in the ovine corpus luteum".
 RL J. Reprod. Fertil. 108:157-165(1996).
 CC -!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin (By similarity).
 CC -!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (By similarity).
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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 CC entities requires a license agreement (See http://www.isb-sib.ch/announcement/
 CC or send an email to license@isb-sib.ch).
 CC EMBL; X89506; CAA61677.1;
 CC PIR; S57956; S57956.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 KW Heparin-binding; Multigene family.
 FT SIGNAL 1 26 BY SIMILARITY.
 FT CHAIN 27 146 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL).
 SQ SEQUENCE 146 AA; 17247 MW; 4E792CB557F91760 CRC64;

Query Match 73.1%; Score 57; DB 1; Length 146;
 Best Local Similarity 76.9%; Pred. No. 0.01;
 Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRCPVTEES 13
 ||| |||||
 DB 86 CNDEGECVPTTEES 98

RESULT 4

VEGA_CAVPO STANDARD; PRT; 164 AA.

AC P26617;
 DT 01-AUG-1992 (Rel. 23, Created)
 DT 01-AUG-1992 (Rel. 23, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A (VEGF-A) (Vascular permeability factor) (VPF)
 DE factor) (VPF)
 GN VEGF OR VEGFA.
 OS Cavia porcellus (Guinea pig).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
 OX NCBI_TaxID=10141;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Hile duct;
 RA Berse B.;
 RL Submitted (JAN-1992) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth. Induces endothelial proliferation and vascular permeability (By similarity).
 CC -!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with pIGF (By similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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 DR HMBL; M44230; AAA37057.1;
 DR HSPB; P15692; 1VGH.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 DR Mitogen; Angiogenesis; Growth factor; Glycoprotein.
 FT DISULFID 25 67 BY SIMILARITY.
 FT DISULFID 56 101 BY SIMILARITY.
 FT DISULFID 60 103 BY SIMILARITY.
 FT DISULFID 50 50 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 59 59 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 74 74 N-LINKED (GLCNAC...) (POTENTIAL).
 SQ SEQUENCE 164 AA; 19330 MW; 9EB86A81A9D5DC4 CRC64;
 Query Match 73.1%; Score 57; DB 1; Length 164;
 Best Local Similarity 76.9%; Pred. No. 0.011;
 Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 CNSMRECVPTPEE 13
 DB 60 CNDESLECVPTPEE 72
 RESULT 5
 VEGA_BOVIN
 ID VEGA_BOVIN STANDARD; PRT; 190 AA.
 AC P15691;
 DT 01-APR-1990 (Rel. 14, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF)
 DE VEGF OR VEGFA.
 GN Bos taurus (Bovine).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OX NCBI_TaxID=10141;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Hile duct;
 RA Berse B.;
 RL Submitted (JAN-1992) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth. Induces endothelial proliferation and vascular permeability (By similarity).
 CC -!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with pIGF (By similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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 DR HMBL; M44230; AAA37057.1;
 DR HSPB; P15692; 1VGH.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 DR Mitogen; Angiogenesis; Growth factor; Glycoprotein.
 FT DISULFID 25 67 BY SIMILARITY.
 FT DISULFID 56 101 BY SIMILARITY.
 FT DISULFID 60 103 BY SIMILARITY.
 FT DISULFID 50 50 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 59 59 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 74 74 N-LINKED (GLCNAC...) (POTENTIAL).
 SQ SEQUENCE 164 AA; 19330 MW; 9EB86A81A9D5DC4 CRC64;

CC Bovidae; Bovinae; Bos.
 OX NCBI_TaxID=9913;
 RN [1]
 RP SEQUENCE FROM N.A., AND SEQUENCE OF 27-47.
 RX MEDLINE=90069608; PubMed=2479986;
 RA Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara N.;
 RT "Vascular endothelial growth factor is a secreted angiogenic mitogen";
 RL Science 246:1306-1309(1989).
 RN [2]
 RP SEQUENCE OF 27-190 FROM N.A. (ISOFORMS ALPHA AND BETA).
 RX MEDLINE=90121225; PubMed=2610687;
 RA Tischer E., Gospodarowicz D., Mitchell R., Silva M., Schilling J.,
 RA Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
 RT "Vascular endothelial growth factor: a new member of the platelet-derived growth factor gene family";
 RL Biochem. Biophys. Res. Commun. 165:1198-1206(1989).
 RN [3]
 RP SEQUENCE OF 27-31.
 RX MEDLINE=89286596; PubMed=2735925;
 RA Ferrara N., Henzel W.J.;
 RT "Pituitary follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells";
 RL Biochem. Biophys. Res. Commun. 161:851-858(1989).
 CC -!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
 CC -!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with pIGF (By similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
 CC -!- ALTERNATIVE PRODUCTS:
 CC Event-Alternative splicing; Named isoforms=2;
 CC Name=Alpha;
 CC IsoId=PI5691-1; Sequence=Displayed;
 CC Name=Beta;
 CC IsoId=PI5691-2; Sequence=VSP_004613, VSP_004614;
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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 DR EMBL; M32976; AAA30502.1;
 DR EMBL; M31836; AAA30804.1;
 DR EMBL; M33750; AAA30805.1;
 DR PIR; B40080; B40080.
 DR HSPB; P15692; 1VGH.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 DR Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 KW Heparin-binding; Alternative splicing; Multigene family.
 FT SIGNAL 1 26
 FT CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL).
 FT VARSPLIC 139 183 Missing (in isoform Beta).

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FT VARSPLIC 184 184 /FTid-VSP_004613.
FT R -> K (in isoform Beta).
FT /FTid-VSP_004614.
SQ SEQUENCE 190 AA; 22310 MW; EDBF903E4624789 CRC64;

Query Match 73.18; Score 57; DB 1; Length 190;
Best Local Similarity 76.94; Pred. No. 0.013;
Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNSEMRCPVTEES 13
||| |||||
Db 86 CNDESLCVPTEES 98

RESULT 6
ID VEGA_MOUSE STANDARD; PRT; 214 AA.
AC Q00731; 1993 (Rel. 25, Created)
DT 01-APR-1993 (Rel. 34, Last sequence update)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORMS VEGF-1; VEGF-2 AND VEGF-3).
RX MEDLINE=92274860; PubMed=1592003;
RA Breier G., Albrecht U., Sterrer S., Risau W.;
RT "Expression of vascular endothelial growth factor during embryonic
RT angiogenesis and endothelial cell differentiation.";
RL Development 114:521-532(1992).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM VEGF-1).
RX MEDLINE=92355593; PubMed=1644816;
RA Claffey K.P., Wilkison W.O., Spiegelman B.M.;
RT "Vascular endothelial growth factor. Regulation by cell
RT differentiation and activated second messenger pathways.";
RL J. Biol. Chem. 267:16317-16322(1992).
RN [3]
RP SEQUENCE OF 1-3 FROM N.A.
RX MEDLINE=96216498; PubMed=8632007;
RA Shima D.T., Kuroki M., Deutsch U., Ng Y., Adamis A.P., D'Amore P.A.;
RT "The mouse gene for vascular endothelial growth factor. Genomic
RT structure, definition of the transcriptional unit, and
RT characterization of transcriptional and post-transcriptional
RT regulatory sequences.";
RL J. Biol. Chem. 271:3877-3883(1996).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: VEGF-1 and VEGF-2 are secreted while VEGF-3
CC remains cell-surface associated unless released by heparin.
CC -1- ALTERNATIVE PRODUCTS:
CC Event-Alternative splicing: Named isoforms=3;
CC Name=VEGF-3; Synonyms=VEGF188;
CC IsoId=Q00731-1; Sequence=Displayed;
CC Name=VEGF-1; Synonyms=VEGF164;
CC IsoId=Q00731-2; Sequence=VSP_004626, VSP_004627;
CC Name=VEGF-2; Synonyms=VEGF120;
CC IsoId=Q00731-3; Sequence=VSP_004628;
CC -1- TISSUE SPECIFICITY: In developing embryos, expressed mainly in the
CC choroid plexus, paraventricular neuroepithelium, placenta and
CC kidney glomeruli. Also found in bronchial epithelium, adrenal
CC gland and in seminiferous tubules of testis. High expression of

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CC VEGF continues in kidney glomeruli and choroid plexus in adults.
CC -1- DOMAIN: VEGF-3 contains a basic insert which acts as a cell
CC retention signal.
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC
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CC
CC EMBL; S37052; AAB22252.1; -
CC EMBL; S38083; AAB22253.1; -
CC EMBL; S38100; AAB22254.1; -
CC EMBL; M95200; AAA40547.1; -
CC EMBL; U41383; -- NOT_ANNOTATED_CDS.
CC PIR; A44881; A44881.
CC PIR; B44881; B44881.
CC HSSP; P15692; 2VPF.
CC MGD; MGI:103178; Vegfa.
CC InterPro: IPR000072; PD_growth_factor.
CC Pfam; PF00341; PDGF; 1.
CC ProDom; PD001629; PD_growth_factor; 1.
CC SMART; SM00141; PDGF; 1.
CC PROSITE; PS00249; PDGF_1; 1.
CC PROSITE; PS50278; PDGF_2; 1.
CC
CC Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
CC Heparin-binding; Alternative splicing; Multigene family.
CC BY SIMILARITY.
CC CHAIN 27 214 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
CC DISULFID 51 93 BY SIMILARITY.
CC DISULFID 82 127 BY SIMILARITY.
CC DISULFID 86 129 BY SIMILARITY.
CC DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
CC DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
CC CARBOHYD 100 100 N-LINKED (GLCNAC...) (PROBABLE).
CC VARSPLIC 140 140 K -> N (in isoform VEGF-1).
CC VARSPLIC 141 164 /FTid-VSP_004626.
CC VARSPLIC 141 208 /FTid-VSP_004627.
CC VARSPLIC 141 208 /FTid-VSP_004628.
CC CONFLICT 117 118 GE -> ER (IN REF. 2).
CC SEQUENCE 214 AA; 25283 MW; B5540B51E4BB6E17 CRC64;
Query Match 71.84; Score 56; DB 1; Length 214;
Best Local Similarity 71.44; Pred. No. 0.021;
Matches 10; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

Qy 1 CNSEMRCPVTEES 14
||| |||||
Db 86 CNDEALECVPTEES 99;

RESULT 7
ID VEGA_RAT STANDARD; PRT; 214 AA.
AC P16612; Q9JKX7; Q9QXG6; Q9QXG7;
DT 01-AUG-1990 (Rel. 15, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
DE Name=VEGF OR VEGFA.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM VEGF-A164), AND SEQUENCE OF 27-190.
RX MEDLINE=90207249; PubMed=2320579;

```

RA Conn G., Bayne M.L., Soderman D.D., Kwok P.W., Sullivan K.A.,
RA Palisi T.M., Hope D.A., Thomas K.A.;
RT "Amino acid and cDNA sequences of a vascular endothelial cell mitogen
RL that is homologous to platelet-derived growth factor.";
RN Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
RP [2].
RP SEQUENCE FROM N.A. (ISOFORMS VEGF-A188; VEGF-A164; VEGF-A144 AND
RP VEGF-A120).
RA Ishii H., Arakawa T., Okayama M., Oota I., Takuma T., Inomata K.;
RA "Developmental expression of vascular endothelial growth factor-A
RT (VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in rat
RT masseter muscle.";
RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
RN [3].
RN SEQUENCE OF 27-40.
RP TISSUE-Glial tumor;
RC MEDLINE=95221439; PubMed=7706320;
RX DiSalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G.,
RA Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.;
RA "Purification and characterization of a naturally occurring vascular
RT endothelial growth factor: placenta growth factor heterodimer.";
RL J. Biol. Chem. 270:7717-7723(1995).
CC -!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -!- SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely secreted.
CC VEGF-A164 is more basic, has heparin-binding properties and,
CC although a significant proportion remains cell-associated, most is
CC freely secreted. VEGF-A188 is very basic; it is cell-associated
CC after secretion and is bound avidly by heparin and the
CC extracellular matrix, although it may be released as a soluble
CC form by heparin, heparinase or plasmin (By similarity).
CC -!- ALTERNATIVE PRODUCTS:
CC Event-Alternative splicing; Named isoforms=4;
CC Comment=Additional isoforms seem to exist;
CC Names=VEGF-A188;
CC IsoId=P16612-1; Sequence=Displayed;
CC Name=VEGF-A164;
CC IsoId=P16612-2; Sequence=VSP_004629, VSP_004630;
CC Name=VEGF-A144;
CC IsoId=P16612-3; Sequence=VSP_004632;
CC Name=VEGF-A120;
CC IsoId=P16612-4; Sequence=VSP_004631;
CC -!- TISSUE SPECIFICITY: Expressed in the pituitary, in brain, in
CC particularly in supraoptic and paraventricular nuclei and the
CC choroid plexus. Also found abundantly in the corpus luteum of the
CC ovary and in kidney glomeruli.
CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
CC EMBL; M32167; AAA1211.1;
CC EMBL; AF215725; AAF19211.1;
CC EMBL; AF215726; AAF19212.1;
CC EMBL; AF222779; AAF25958.1;
CC HSP; P15692; IVP.
CC InterPro; IPR000072; PD_growth_factor.
CC Pfam; PF00341; PDGF; 1.
CC ProDom; PD001629; PD_growth_factor; 1.
CC SMART; SM00141; PDGF; 1.
CC PROSITE; PS00249; PDGF_1; 1.
CC PROSITE; PS0278; PDGF_2; 1.

KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 214 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
FT DISULFID 51 93 BY SIMILARITY.
FT DISULFID 82 127 BY SIMILARITY.
FT DISULFID 86 129 BY SIMILARITY.
FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
FT CARBOHYD 100 100 N-LINKED (GLCNAC.).
FT VARSPLIC 140 140 K -> N (in isoform VEGF-A164).
FT VARSPLIC 141 164 /FTId-VSP_004629.
FT VARSPLIC 141 164 Missing (in isoform VEGF-A164).
FT VARSPLIC 141 208 /FTId-VSP_004630.
FT VARSPLIC 141 208 Missing (in isoform VEGF-A120).
FT VARSPLIC 165 208 /FTId-VSP_004631.
FT VARSPLIC 165 208 Missing (in isoform VEGF-A144).
FT VARSPLIC 165 208 /FTId-VSP_004632.
FT CONFLICT 101 101 V -> A (IN REF. 2; AAF19212).
SQ SEQUENCE 214 AA; 25239 MW; 60FBB876F5304946 CRC64;
Query Match 71.8%; Score 56; DB 1; Length 214;
Best Local Similarity 71.4%; Pred. No. 0.021; Indels 0; Gaps 0;
Matches 10; Conservative 0; Mismatches 4;
QY 1 CNSEMRCEVPTSES 14
DB 86 CNDEALCEVPTSES 99
RESULT 8
VEGA_PIG STANDARD; PRT; 190 AA.
ID VEGA_PIG
AC P49151; OSGL52;
DT 01-FEB-1996 (Rel. 33, Created)
DT 01-FEB-1996 (Rel. 33, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX NCBI_TaxID=9823;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-Heart.
RX MEDLINE=95143284; PubMed=7841203;
RA Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.;
RT "Nucleotide sequence and expression of the porcine vascular
RT endothelial growth factor".
RL Biochim. Biophys. Acta 1260:235-238(1995).
RN [2]
RP SEQUENCE FROM N.A.
RA Lee T., Canty J.M.;
RT "PCR cloning of porcine cardiac vascular endothelial growth factor
RT gene".
RL Submitted (NOV-2000) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -!- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
CC EMBL; M32167; AAA1211.1;
CC EMBL; AF215725; AAF19211.1;
CC EMBL; AF215726; AAF19212.1;
CC EMBL; AF222779; AAF25958.1;
CC HSP; P15692; IVP.
CC InterPro; IPR000072; PD_growth_factor.
CC Pfam; PF00341; PDGF; 1.
CC ProDom; PD001629; PD_growth_factor; 1.
CC SMART; SM00141; PDGF; 1.
CC PROSITE; PS00249; PDGF_1; 1.
CC PROSITE; PS0278; PDGF_2; 1.

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 CC or send an email to license@isb-sib.ch).

CC EMBL; X81380; CAA57143.1; -
 CC EMBL; AF318502; AAG33064.1; -
 CC PIR; S52130; S52130.
 CC HSP; P15692; IGVH.
 CC InterPro: IPR000072; PD_growth_factor.
 CC Pfam; PF00341; PDGF; 1.
 CC ProDom; PD001629; PD_growth_factor; 1.
 CC SMART; SM00141; PDGF; 1.
 CC PROSITE; PS00249; PDGF_1; 1.
 CC PROSITE; PS02278; PDGF_2; 1.
 CC Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 CC Heparin-binding; Multigene family.
 FT SIGNAL 1 26
 FT CHAIN 27 190
 FT DISULFID 51 93
 FT DISULFID 82 127
 FT DISULFID 86 129
 FT DISULFID 76 76
 FT DISULFID 85 85
 FT CARBOHYD 100 100
 FT CONFLICT 102 102
 FT SEQUENCE 190 AA; 22368 MW; 04D40B8D7913047F CRC64;
 Query Match 70.5%; Score:55; DB 1; Length 190;
 Best Local Similarity 76.9%; Pred. No. 0.028;
 Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRCEVPTTE 13
 DB 86 CNDGEGCVPTTE 98

RESULT 9
 VEGA_CANFA STANDARD; PRT; 214 AA.
 AC Q9MYV3; Q9XSF3; Q9XSF4; Q9XSF5;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
 DE permeability factor) (VPF).
 GN VEGF OR VEGFA.
 OS Canis familiaris (Dog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
 OX NCBI_TaxID=9615;
 RN [1]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF-188).
 RX MEDLINE=20125516; PubMed=10661874;
 RA Scheidegger P., Weiglhofer W., Suarez S., Kaser-Hotz B., Steiner R.,
 RA Ballmer-Hofer K., Jaussi R.;
 RT "Vascular endothelial growth factor (VEGF) and its receptors in tumor-
 RL bearing dogs.";
 RL Biol. Chem. 380:1449-1454(1999).
 RN [2]
 RP SEQUENCE FROM N.A. (ISOFORMS VEGF-188; VEGF-182 AND VEGF-164).
 RC TISSUE=Heart;
 RA Jingjing L., Roque R.S.;
 RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin (By similarity).
 CC -!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (By similarity).

CC -!- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
 CC to the extracellular matrix unless released by heparin (By
 CC similarity).
 CC -!- ALTERNATIVE PRODUCTS:
 CC Event-Alternative splicing; Named isoforms=3;
 CC Comment=Additional isoforms seem to exist;
 CC Name=VEGF-188;
 CC IsoId=Q9MYV3-1; Sequence=Displayed;
 CC Name=VEGF-182;
 CC IsoId=Q9MYV3-2; Sequence=VSP_004617;
 CC Name=VEGF-164;
 CC IsoId=Q9MYV3-3; Sequence=VSP_004615, VSP_004616;
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC -----
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CC EMBL; AJ133758; CAB82426.1; -
 CC EMBL; AF133250; AAD29684.1; -
 CC EMBL; AF133249; AAD29683.1; -
 CC EMBL; AF133248; AAD29682.1; -
 CC HSP; P15692; IGVH.
 CC InterPro: IPR000072; PD_growth_factor.
 CC Pfam; PF00341; PDGF; 1.
 CC ProDom; PD001629; PD_growth_factor; 1.
 CC SMART; SM00141; PDGF; 1.
 CC PROSITE; PS00249; PDGF_1; 1;
 CC PROSITE; PS02278; PDGF_2; 1;
 CC Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 CC Heparin-binding; Alternative splicing; Multigene family.
 FT SIGNAL 1 26
 FT CHAIN 27 214
 FT DISULFID 51 93
 FT DISULFID 82 127
 FT DISULFID 86 129
 FT DISULFID 76 76
 FT DISULFID 85 85
 FT CARBOHYD 100 100
 FT VARSPLIC 140 140
 FT VARSPLIC 141 164
 FT VARSPLIC 159 164
 FT CONFLICT 143 143
 FT CONFLICT 161 161
 FT SEQUENCE 214 AA; 25175 MW; 0AC980A158C44B27 CRC64;
 Query Match 70.5%; Score 55; DB 1; Length 214;
 Best Local Similarity 76.9%; Pred. No. 0.031;
 Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRCEVPTTE 13
 DB 86 CNDGEGCVPTTE 98

RESULT 10
 VEGA_MESAU STANDARD; PRT; 190 AA.
 ID VEGA_MESAU
 AC Q99PS1;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
 DE permeability factor) (VPF).
 GN VEGF OR VEGFA.
 OS Mesocricetus auratus (Golden hamster).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
 OC Mesocricetus.
 OX NCBI_TaxID=10036;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Decidua, and Embryo;
 RX MEDLINE=99311285; PubMed=10382276;
 RA Yi X.J., Jiang H.Y., Lee K.K., Tang P.L., Chow P.H.;
 RT "Expression of vascular endothelial growth factor (VEGF) and its
 RT receptors during embryonic implantation in the golden hamster
 RT (Mesocricetus auratus).";
 RL Cell Tissue Res. 296:339-349(1999).
 CC -!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin (By similarity).
 CC -!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with p1GF (By similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
 CC to the extracellular matrix unless released by heparin (By
 CC similarity).
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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 CC
 DR EMBL; AF063013; AAK00049.1;
 DR HSPG; P15692; 1VGH.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam: PF00341; PDGF; 1.
 DR ProDom: PD001629; PD_growth_factor; 1.
 DR SMART: SM00141; PDGF; 1.
 DR PROSITE: PS00249; PDGF_1; 1.
 DR PROSITE: PS02078; PDGF_2; 1.
 DR Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 KW Heparin-binding; Multigene family.
 FT SIGNAL 1 26
 FT CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL).
 SQ SEQUENCE 190 AA; 22276 MW; F00C5A8EA79A465F CRC64;
 Query Match 65.4%; Score 51; DB 1; Length 190;
 Best Local Similarity 64.3%; Pred. No. 0.13;
 Matches 9; Conservative 1; Mismatches 4; Indels 0; Gaps 0;
 QY 1 CNSEMRECVPTSES 14
 Db 86 CSDEALECVPTSES 99
 RESULT 11
 ID VEGA_HORSE STANDARD; PRT; 190 AA.
 AC Q9GKR0;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
 DE permeability factor) (VPF).
 GN VEGF OR VEGFA.

OS Equus caballus (Horse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
 OX NCBI_TaxID=9796;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Miura N., Misumi K., Kawahara K., Nakashima M., Fukumitsu S.,
 RA Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.;
 RT "Cloning of cDNA and high-level expression of equine vascular
 RT endothelial growth factor (VEGF).";
 RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: Growth factor active in angiogenesis, and endothelial
 CC cell growth. Induces endothelial proliferation and vascular
 CC permeability (By similarity).
 CC -!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with p1GF (By similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
 CC to the extracellular matrix unless released by heparin (By
 CC similarity).
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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 CC
 DR EMBL; AB053350; BAB20890.1;
 DR HSPG; P15692; 1VGH.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam: PF00341; PDGF; 1.
 DR ProDom: PD001629; PD_growth_factor; 1.
 DR SMART: SM00141; PDGF; 1.
 DR PROSITE: PS00249; PDGF_1; 1.
 DR PROSITE: PS02078; PDGF_2; 1.
 DR Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 KW Multigene family.
 FT SIGNAL 1 26
 FT CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL).
 SQ SEQUENCE 190 AA; 22312 MW; 87E9E161439E5F87 CRC64;
 Query Match 62.8%; Score 49; DB 1; Length 190;
 Best Local Similarity 69.2%; Pred. No. 0.28;
 Matches 9; Conservative 0; Mismatches 4; Indels 0; Gaps 0;
 QY 1 CNSEMRECVPTSE 13
 Db 86 CNDGLECVPTAE 98
 RESULT 12
 ID YME9_YEAST STANDARD; PRT; 1361 AA.
 AC Q04693;
 DT 01-NOV-1997 (Rel. 35, Created)
 DT 01-NOV-1997 (Rel. 35, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Hypothetical 153.8 kDa protein in GAL80-PRP39 intergenic region.
 GN YML049C OR YN9827.03C.
 OS Saccharomyces cerevisiae (Baker's yeast).
 OC Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
 OC Saccharomycetales; Saccharomycetaceae; Saccharomyces.
 OX NCBI_TaxID=4932;
 RN [1]
 RP SEQUENCE FROM N.A.

```

RC STRAIN-S288c / AB972;
RX PubMed-9169872;
RA Bowman S., Churcher C.M., Badcock K., Brown D., Chillingworth T.,
RA Connor R., Dedman K., Devlin K., Gentles S., Hamlin N., Hunt S.,
RA Jagels K., Lye G., Moulé S., Odell C., Pearson D., Rajandream M.A.,
RA Rice P., Skelton J., Walsh S., Whitehead S., Barrell B.G.:
RT "The nucleotide sequence of Saccharomyces cerevisiae chromosome
RL XIII."
RL Nature 387:90-93(1997).
CC -1- SIMILARITY: IN THE C-TERMINAL, TO THE C-TERMINAL OF HUMAN
CC HYPOTHETICAL PROTEIN KIAA0017.
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CC -----
CC EMBL; Z47816; CAA87825.1;
DR PIR; S50943; S50943;
DR SGD; S0004513; RSEL.
DR GO; GO:0005686; C:snrp U2; IDA.
DR GO; GO:0030620; F:U2 snRNA binding activity; IPI.
DR GO; GO:0000245; P:spliceosome assembly; IDA.
DR InterPro; IPR004871; CPSE_A.
DR Pfam; PF03178; CPSE_A; 1.
KW Hypothetical protein.
SQ SEQUENCE 1361 AA; 153783 MW; 4D92837F5C267D67 CRC64;

Query Match 51.3%; Score 40; DB 1; Length 1361;
Best Local Similarity 50.0%; Pred. No. 64;
Matches 7; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

Qy 1 CENSEMRECVPTRES 14
Db 603 CTAEHLRHIVPTGKS 616

RESULT 13
PTPU_HUMAN STANDARD; PRT; 1430 AA.
AC Q92729;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Protein-tyrosine phosphatase U precursor (EC 3.1.3.48) (R-PTP-U)
DE (Protein-tyrosine phosphatase J) (PTP-J) (Pancreatic carcinoma
DE phosphatase 2) (PCP-2).
DE PTPRU OR PCP2.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Pancreas;
RX MEDLINE=96293401; PubMed=8700514;
RA Wang H., Lian Z., Lerch M.M., Chen Z., Xie W., Ullrich A.;
RA "Characterization of PCP-2, a novel receptor protein tyrosine
RT phosphatase of the MAM domain family.";
RL Oncogene 12:2555-2562(1996).
CC -1- FUNCTION: REGULATION OF PROCESSES INVOLVING CELL CONTACT AND
CC ADHESION SUCH AS GROWTH CONTROL, TUMOR INVASION, AND METASTASIS.
CC FORMS COMPLEXES WITH BETA-CATENIN AND GAMMA-CATENIN/PLAKOGLOBIN
CC (BY SIMILARITY).
CC -1- CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)O -> protein
CC tyrosine + phosphate.
CC -1- SUBCELLULAR LOCATION: Type I membrane protein.
CC -1- TISSUE SPECIFICITY: HIGH LEVELS IN BRAIN, PANCREAS, AND SKELETAL
CC MUSCLE; LESS IN COLON, KIDNEY, LIVER, STOMACH, AND UTERUS; NOT
CC EXPRESSED IN PLACENTA AND SPLEEN.

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CC -1- INDUCTION: UPREGULATED UPON CELL CONTACT.
CC -1- SIMILARITY: Contains 1 MAM domain.
CC -1- SIMILARITY: Contains 1 immunoglobulin-like C2-type domain.
CC -1- SIMILARITY: Contains 4 fibronectin type III domains.
CC -1- SIMILARITY: Contains 2 protein-tyrosine phosphatase domains.
CC -----
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CC entities requires a license agreement (see http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; X97198; CAA65832.1;
DR HSSP; P28827; IRPM.
DR Genew; HGNC:9683; PTPRU.
DR MIM; 602454;
DR GO; GO:0005887; C:integral to plasma membrane; TAS.
DR GO; GO:0005001; F:transmembrane receptor protein tyrosine pho.; TAS.
DR GO; GO:0007155; P:cell adhesion; TAS.
DR GO; GO:0007185; P:transmembrane receptor protein tyrosine pho.; TAS.
DR InterPro; IPR003961; FN_III.
DR InterPro; IPR003962; FNIII_subd.
DR InterPro; IPR003599; Ig.
DR InterPro; IPR003006; Ig_MHC.
DR InterPro; IPR000998; MAM_domain.
DR InterPro; IPR000387; TYR_phosphatase.
DR InterPro; IPR000242; Tyr_PP.
DR Pfam; PF00041; fn3; 3.
DR Pfam; PF00629; MAM; 1.
DR Pfam; PF0102; Y_phosphatase; 2.
DR PRINTS; PR00014; ENTPEIII.
DR PRINTS; PR00020; MANDOMAIN.
DR PRINTS; PR00700; PRTYPHPTASE.
DR SMART; SM00060; FN3; 3.
DR SMART; SM00409; IG; 1.
DR SMART; SM00137; MAM; 1.
DR SMART; SM00194; PTPC; 2.
DR PROSITE; PS00383; TYR_PHOSPHATASE_1; 2.
DR PROSITE; PS00356; TYR_PHOSPHATASE_2; 2.
DR PROSITE; PS00055; TYR_PHOSPHATASE_PTP; 2.
DR PROSITE; PS00740; MAM_1; 1.
DR PROSITE; PS00060; MAM_2; 1.
KW Hydrolase; Receptor; Glycoprotein; Signal; Transmembrane;
KW Immunoglobulin domain; Repeat.
FT SIGNAL 1 18
FT CHAIN 19 1430 PROTEIN-TYROSINE PHOSPHATASE U.
FT DOMAIN 19 740 EXTRACELLULAR (POTENTIAL).
FT TRANSMEM 741 764 POTENTIAL.
FT DOMAIN 765 1430 CYTOPLASMIC (POTENTIAL).
FT DOMAIN 22 187 MAM.
FT DOMAIN 202 268 IG-LIKE C2-TYPE.
FT DOMAIN 287 374 FIBRONECTIN TYPE-III 1.
FT DOMAIN 382 465 FIBRONECTIN TYPE-III 2.
FT DOMAIN 485 570 FIBRONECTIN TYPE-III 3.
FT DOMAIN 587 668 FIBRONECTIN TYPE-III 4.
FT DOMAIN 899 1127 PROTEIN-TYROSINE PHOSPHATASE 1.
FT DOMAIN 1190 1428 PROTEIN-TYROSINE PHOSPHATASE 2.
FT ACT_SITE 1069 1069 BY SIMILARITY.
FT ACT_SITE 1364 1364 BY SIMILARITY.
FT DISULFID 209 261 POTENTIAL.
FT CARBOHYD 75 75 N-LINKED (GLCNAC...) (POTENTIAL).
FT CARBOHYD 95 95 N-LINKED (GLCNAC...) (POTENTIAL).
FT CARBOHYD 133 133 N-LINKED (GLCNAC...) (POTENTIAL).
FT CARBOHYD 204 204 N-LINKED (GLCNAC...) (POTENTIAL).
FT CARBOHYD 405 405 N-LINKED (GLCNAC...) (POTENTIAL).
FT CARBOHYD 427 427 N-LINKED (GLCNAC...) (POTENTIAL).
FT CARBOHYD 543 543 N-LINKED (GLCNAC...) (POTENTIAL).
FT CARBOHYD 581 581 N-LINKED (GLCNAC...) (POTENTIAL).
FT CARBOHYD 679 679 N-LINKED (GLCNAC...) (POTENTIAL).
SQ SEQUENCE 1430 AA; 160227 MW; A5F366C16FCF8E48 CRC64;

```

Query Match 51.38; Score 40; DB 1; Length 1430;
 Best Local Similarity 58.38; Pred. No. 67;
 Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Oy 2 NSEMRCPTEE 13
 Db 427 NOTIRECVKTEO 438

RESULT 14

PK5_MOUSE
 ID PK5_MOUSE STANDARD; PRT: 1877 AA.
 AC Q04592; Q62040;
 DT 01-FEB-1995 (Rel. 31, Created)
 DT 16-FEB-2001 (Rel. 40, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Proprotein convertase subtilisin/kexin type 5 precursor (EC 3.4.21.-)
 DE (Proprotein convertase PC5) (Subtilisin/kexin-like protease PC5)
 DE (Convertase PC5) (PC6) (Subtilisin-like proprotein convertase 6) (SPC6).
 DE PCSK5.
 GN PCSK5.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN
 RP SEQUENCE OF 330-1877 FROM N.A. (ISOFORM PC5B).
 RC STRAIN=ICR; TISSUE=Intestine;
 RX MEDLINE=93327934; PubMed=8335106;
 RA Nakagawa T., Murakami K., Nakayama K.;
 RT "Identification of an isoform with an extremely large Cys-rich region
 of PC6, a kex2-like processing endoprotease.";
 RL FEBS Lett. 327:165-171(1993).
 RN
 RP SEQUENCE FROM N.A. (ISOFORM PC5A).
 RC TISSUE=Brain, and Intestine;
 RX MEDLINE=93224489; PubMed=8468318;
 RA Nakagawa T., Hosaka M., Torii S., Watanabe T., Murakami K.,
 RA Nakayama K.;
 RT "Identification and functional expression of a new member of the
 mammalian Kex2-like processing endoprotease family: its striking
 structural similarity to PAC4.";
 RL J. Biochem. 113:132-135(1993).
 RN
 RP SEQUENCE FROM N.A. (ISOFORM PC5A).
 RC TISSUE=Adrenal cortex;
 RX MEDLINE=93342056; PubMed=8341687;
 RA Lussan J., Vieau D., Hamelin J., Day R., Chretien M., Seidah N.G.;
 RT "cDNA structure of the mouse and rat subtilisin/kexin-like PC5: a
 candidate proprotein convertase expressed in endocrine and
 nonendocrine cells.";
 RL Proc. Natl. Acad. Sci. U.S.A. 90:6691-6695(1993).
 RN
 RP PARTIAL SEQUENCE, AND SUBCELLULAR LOCATION.
 RX MEDLINE=97103178; PubMed=8947550;
 RA De Bie I., Marcinkiewicz M., Malide D., Lazure C., Nakayama K.,
 RA Bendayan M., Seidah N.G.;
 RT "The isoforms of proprotein convertase PC5 are sorted to different
 subcellular compartments.";
 RL J. Cell Biol. 135:1261-1275(1996).
 RN
 RP DEVELOPMENTAL EXPRESSION.
 RX MEDLINE=96293359; PubMed=8698813;
 RA Constam D.B., Calton M., Robertson E.J.;
 RT "SPC4, SPC6, and the novel protease SPC7 are coexpressed with bone
 morphogenetic proteins at distinct sites during embryogenesis.";
 RL J. Cell Biol. 134:181-191(1996).
 RN
 RP DEVELOPMENTAL EXPRESSION.
 RX MEDLINE=97436919; PubMed=9291583;
 RA Rancourt S.L., Rancourt D.E.;
 RT "Murine subtilisin-like proteinase SPC6 is expressed during embryonic
 implantation, somitogenesis, and skeletal formation.";

RL Dev. Genet. 21:75-81(1997).
 CC -1- FUNCTION: LIKELY TO REPRESENT A WIDESPREAD ENDOPEPTIDASE ACTIVITY
 WITHIN THE CONSTITUTIVE AND REGULATED SECRETORY PATHWAY. CAPABLE
 CC OF CLEAVAGE AT THE RX(K/R)R CONSENSUS MOTIF. MAY BE RESPONSIBLE
 CC FOR THE MATURATION OF GASTROINTESTINAL PEPTIDES. MAY BE INVOLVED
 CC IN THE CELLULAR PROLIFERATION OF ADRENAL CORTEX VIA THE ACTIVATION
 CC OF GROWTH FACTORS.
 CC -1- CATALYTIC ACTIVITY: Release of mature proteins from their
 CC propeptides by cleavage of Arg-Xaa-Yaa-Arg-1-zaa bonds, where Xaa
 CC can be any amino acid and Yaa is Arg or Lys.
 CC -1- SUBCELLULAR LOCATION: PC5A IS SECRETED THROUGH THE REGULATED
 CC SECRETORY PATHWAY. PC5B IS A TYPE I MEMBRANE PROTEIN LOCALIZED TO
 CC A PARANUCLEAR POST-GOLGI NETWORK COMPARTMENT IN COMMUNICATION WITH
 CC EARLY ENDOSOMES.
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=2;
 CC Comment=Additional isoforms seem to exist;
 CC Name=PC5B; Synonyms=Long;
 CC Name=PC5A; Synonyms=Short;
 CC IsoId=Q04592-1; Sequence=displayed;
 CC IsoId=Q04592-2; Sequence=VSP_005438, VSP_005439;
 CC -1- TISSUE SPECIFICITY: PC5A IS EXPRESSED IN MOST TISSUES BUT IS MOST
 CC ABUNDANT IN THE INTESTINE AND ADRENALS. PC5B IS EXPRESSED IN THE
 CC INTESTINE, ADRENALS AND LUNG BUT NOT IN THE BRAIN.
 CC -1- DEVELOPMENTAL STAGE: WEAKLY EXPRESSED THROUGHOUT THE EMBRYO,
 CC EXCEPT IN THE DEVELOPING NERVOUS SYSTEM, THE RIBS AND THE LIVER,
 CC BUT MARKEDLY UPREGULATED AT DISCRETE SITES DURING DEVELOPMENT. AT
 CC E6.5, PROMINENT EXPRESSION OBSERVED IN DIFFERENTIATED DECIDUA. AT
 CC E7.5, INTENSE EXPRESSION IN EXTRAEMBRYONIC ENDODERM, AMNION AND
 CC NECTAL MESODERM. AT 8.5, ABUNDANT EXPRESSION IN SOMITES AND YOLK
 CC SAC FOLLOWED BY A CONFINATION TO DERMATOTOME COMPARTMENT. BETWEEN
 CC E9.5 AND E11.5, ABUNDANT EXPRESSION IN AER (THICKENED ECTODERMAL
 CC CELLS OF LIMB BUDS). AT E12.5, EXPRESSION IN THE LIMBS IS CONFINED
 CC TO THE CONDENSING MESENCHYM SURROUNDING THE CARTILAGE. AT THIS
 CC STAGE, STRONG EXPRESSION ALSO DETECTED IN VERTEBRAL AND FACIAL
 CC CARTILAGE PRIMORDIA AND IN THE MUSCLE OF THE TONGUE. AT E16.5,
 CC ABUNDANT EXPRESSION IN EPITHELIAL CELLS OF THE INTESTINAL VILLI.
 CC ISOFORM A IS MOST ABUNDANT AT ALL STAGES BUT SIGNIFICANT LEVELS OF
 CC ISOFORM B OCCUR AT E12.5.
 CC -1- DOMAIN: THE PROPEPTIDE DOMAIN ACTS AS AN INTRAMOLECULAR CHAPERONE
 CC ASSISTING THE FOLDING OF THE ZYMOGEN WITHIN THE ENDOPLASMIC
 CC RETICULUM.
 CC -1- DOMAIN: AC 1 AND AC 2 (CLUSTERS OF ACIDIC AMINO ACIDS) CONTAIN
 CC SORTING INFORMATION. AC 1 DIRECTS TGN LOCALIZATION AND INTERACTS
 CC WITH THE TGN SORTING PROTEIN PACS-1.
 CC -1- SIMILARITY: Belongs to peptidase family S8.
 CC -1- SIMILARITY: Contains 1 homo B/P domain.
 CC
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 CC
 CC EMBL: D17583; BAA04507.1;
 CC EMBL: D12619; BAA02143.1;
 CC EMBL: L14932; AAA74636.1;
 CC PIR: A48225; A48225;
 CC PIR: S34583; S34583;
 CC HSP: Q99405; IMPT.
 CC MEROPS: S08.076;
 CC MG: MG1:97515; PCSK5.
 CC InterPro: IPR006212; Furin_repeat.
 CC InterPro: IPR002884; P_domain.
 CC InterPro: IPR006209; Peptidase_S8.
 CC Pfam: PF01483; P_protein; PARTIAL.
 CC PRINTS: PR00723; SUBTILISIN.
 CC ProDom: PD000717; P_domain; 1.
 CC SMART: SM00261; FU_22.
 CC PROSITE: PS00136; SUBTILASE_ASP; 1.

Thu Jul 24 17:07:36 2003

pepl.rsp

Page 12

Job time : 11.7059 secs

Result No.	Score	Query		Length	DB	ID	Description
		Match	%				
1	61	78.2		65	6	Q8MIN0	Q8min0 capra hircu
2	61	78.2		109	6	Q8MIN1	Q8min1 capra hircu
3	59	75.6		126	6	Q9BDP7	Q9bdp7 macaca mula
4	59	75.6		191	4	Q96K30	Q96k30 homo sapien
5	59	75.6		191	4	Q96L82	Q96l82 homo sapien
6	59	75.6		191	6	Q95NE5	Q95ne5 macaca fasc
7	58	74.4		132	12	Q9YMF3	Q9ymf3 orf virus.
8	57	73.1		68	6	Q97500	Q97500 oryctolagus
9	57	73.1		75	6	Q18843	Q18843 oryctolagus
10	57	73.1		78	6	Q9N152	Q9n1s2 capreolus c
11	57	73.1		118	6	Q9MZB1	Q9mzb1 ovis aries
12	57	73.1		123	6	Q9N151	Q9n1s1 capreolus c
13	57	73.1		131	6	Q8MJ86	Q8mj86 capreolus c
14	57	73.1		190	6	Q77643	Q77643 ovis aries
15	56	71.8		110	11	Q88911	Q88911 rattus norv
16	56	71.8		141	11	Q70123	Q70123 mus musculu

Qy 1 CNSEMRECVPTES 14
||| |||||||
Db 80 CNDEGLECVPTES 93

RESULT 4
Q96KJ0 PRELIMINARY; PRT; 191 AA.
ID Q96KJ0
AC Q96KJ0;
DT 01-DEC-2001 (TREMBlrel. 19, Created)
DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE Vascular endothelial growth factor 165b.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUP=Kidney;
RA Sugiono M., Winkler M., Gillatt D., Harper S.J., Bates D.O.;
ET "A new isoform of vascular endothelial growth factor mRNA is down-
regulated in renal tumors.";
RL (In) Unknown A. (eds.);
RL Proceedings of the 7th World Congress on Microcirculation, pp.3-3,
SYdney, Australia (2001).
RL EMBL: AF430806; AAL27435.1;
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam: PF00341; PDGF.1.
DR ProDom: PD001629; PD_growth_factor; 1.
DR SMART: SM00141; PDGF.1.
DR PROSITE: PS00249; PDGF.1; 1.
DR PROSITE: PS50278; PDGF.2; 1.
SQ SEQUENCE 191 AA; 22258 MW; D25243E540AC79BD CRC64;

Query Match 75.6%; Score 59; DB 4; Length 191;
Best Local Similarity 78.6%; Pred. No. 0.0037;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNSEMRECVPTES 14
||| |||||||
Db 87 CNDEGLECVPTES 100

RESULT 5
Q96L82 PRELIMINARY; PRT; 191 AA.
ID Q96L82
AC Q96L82;
DT 01-DEC-2001 (TREMBlrel. 19, Created)
DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)
DT 01-OCT-2002 (TREMBlrel. 22, Last annotation update)
DE Vascular endothelial growth factor.
GN VEGF.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RA Liu J., Peng X., Yuan J., Qiang B.;
RT "Cloning of vascular endothelial growth factor (VEGF) cDNA";
RL Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL: AY047581; AAK95847.1;
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam: PF00341; PDGF.1.
DR ProDom: PD001629; PD_growth_factor; 1.
DR PROSITE: PS00249; PDGF.1; 1.
DR PROSITE: PS50278; PDGF.2; 1.
SQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 75.6%; Score 59; DB 4; Length 191;
Best Local Similarity 78.6%; Pred. No. 0.0037;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;


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Qy 1 CNSEMRCPPTES 14
Db 87 CNDEGLECVPTES 100

RESULT 6
Q95NE5 Q95NE5 PRELIMINARY; PRT; 191 AA.
AC Q95NE5;
DT 01-DEC-2001 (TRENBLrel. 19, Created)
DT 01-DEC-2001 (TRENBLrel. 19, Last sequence update)
DT 01-OCT-2002 (TRENBLrel. 22, Last annotation update)
DE SIMVEGF165.
GN SIMVEGF165.
OS Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
OC Cercopithecoidea; Macaca.
OX NCBI_TaxID=9541;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=96245208; PubMed=8641836;
RA Shima D.T., Gougos A., Miller J.W., Tolentino M., Robinson G.,
RA Adamis A.P., D'Amore P.A.;
RT "Cloning and mRNA expression of vascular endothelial growth factor in
RT ischemic retinas of Macaca fascicularis."
RL Invest. Ophthalmol. Vis. Sci. 37:1334-1340(1996).
DR EMBL; S82167; AAB47118.1;
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS00278; PDGF_2; 1.
DR PROSITE; PS00278; PDGF_2; 1.
SQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 75.6%; Score 59; DB 6; Length 191;
Best Local Similarity 78.6%; Pred. No. 0.0037;
Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNSEMRCPPTES 14
Db 87 CNDEGLECVPTES 100

RESULT 7
Q9YMF3 Q9YMF3 PRELIMINARY; PRT; 132 AA.
AC Q9YMF3;
DT 01-MAY-1999 (TRENBLrel. 10, Created)
DT 01-MAY-1999 (TRENBLrel. 10, Last sequence update)
DT 01-MAY-2003 (TRENBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor homolog Vegf-e.
OS Orf virus.
OC Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
OC Parapoxvirus.
OX NCBI_TaxID=10258;
RP SEQUENCE FROM N.A.
RX STRAIN=D1701;
RC MEDLINE=99107753; PubMed=9889193;
RA Meyer M., Clauss M., Lepple-Wienhues A., Waltenberger J.,
RA Augustin H.G., Ziche M., Lanz C., Buettner M., Rzhizha H.J., Dehio C.;
RT "A novel vascular endothelial growth factor encoded by orf virus,
RT VEGF-E, mediates angiogenesis via signalling through VEGFR-2 (KDR) but
RT not VEGFR-1 (Flt-1) receptor tyrosine kinases."
RL EMBO J. 18:363-374(1999).
DR EMBL; AF106020; RAD03735.1;
DR HSP; P49763; IF2V.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.

DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS00278; PDGF_2; 1.
DR PROSITE; PS00278; PDGF_2; 1.
SQ SEQUENCE 132 AA; 14763 MW; 15F403A068B72926 CRC64;

Query Match 74.4%; Score 58; DB 12; Length 132;
Best Local Similarity 71.4%; Pred. No. 0.004;
Matches 10; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNSEMRCPPTES 14
Db 70 CNDEGLECVPTES 83

RESULT 8
Q97500 Q97500 PRELIMINARY; PRT; 68 AA.
AC Q97500;
DT 01-MAY-1999 (TRENBLrel. 10, Created)
DT 01-MAY-1999 (TRENBLrel. 10, Last sequence update)
DT 01-MAR-2003 (TRENBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor (Fragment).
GN VEGF.
OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX NCBI_TaxID=9986;
RN [1]
RP SEQUENCE FROM N.A.
RA Inoue K., Kawabe Y., Kodama T.;
RT "Rabbit VEGF cDNA, partial."
RL Submitted (NOV-1998) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB020216; BAA36949.1;
DR HSP; P49763; IF2V.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS00278; PDGF_2; 1.
FT NON_TER 1
FT NON_TER 68
SQ SEQUENCE 68 AA; 7819 MW; 687638661E98DEE0 CRC64;

Query Match 73.1%; Score 57; DB 6; Length 68;
Best Local Similarity 76.9%; Pred. No. 0.0032;
Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNSEMRCPPTES 13
Db 41 CNDEGLECVPTES 53

RESULT 9
Q18843 Q18843 PRELIMINARY; PRT; 75 AA.
AC Q18843;
DT 01-JAN-1998 (TRENBLrel. 05, Created)
DT 01-JAN-1998 (TRENBLrel. 05, Last sequence update)
DT 01-MAR-2003 (TRENBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor (Fragment).
GN VEGF.
OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX NCBI_TaxID=9986;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=NEW ZEALAND WHITE; TISSUE=Skeletal muscle;
RX MEDLINE=98191144; PubMed=9530113;
RA Skorjanc D., Jaschinski F., Heine G., Pette D.;
RT "Sequential increases in capillarization and mitochondrial enzymes in
RT low-frequency-stimulated rabbit muscle."
RL Am. J. Physiol. 274:C810-C818(1998).
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DR EMBL; AF022179; AAC15469.1; --
DR HSSP; P49763; 1FZV.
DR InterPro; IPR002400; GF_cysknot.
DR Pfam; PF00341; PDGF_1.
DR PRINTS; PR00438; GFCYSKNOT.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS0278; PDGF_2; 1.
FT NON_TER 1
FT NON_TER 75
SQ SEQUENCE 75 AA; 8720 MW; DDCE2C5B29B69359 CRC64;

Query Match 73.1%; Score 57; DB 6; Length 75;
Best Local Similarity 76.9%; Pred. No. 0.0036;
Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRCPVTEE 13
DB 29 CNDESLECPTEE 41

RESULT 10
Q9NIS2 PRELIMINARY; PRT; 78 AA.
AC Q9NIS2;
DT 01-OCT-2000 (TREMBlrel. 15, Created)
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE Vascular endothelial growth factor isoform 121 (Fragment).
GN VEGF.
OS Capreolus capreolus (Roe deer).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervioidea;
OC Cervidae; Odocoileinae; Capreolus.
OX NCBI_TaxID=9858;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Testis;
RX MEDLINE-20532861; PubMed-11078967;
RA Wagener A., Blotner S., Goritz F., Fickel J.;
RT "Detection of growth factors in the testis of roe deer (Capreolus capreolus).";
RL Anim. Reprod. Sci. 64:65-75(2000).
DR EMBL; AF152593; AAF73232.1; --
DR HSSP; P49763; 1FZV.
DR InterPro; IPR002400; GF_cysknot.
DR Pfam; PF00341; PDGF_1.
DR PRINTS; PR00438; GFCYSKNOT.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS0278; PDGF_2; 1.
FT NON_TER 1
FT NON_TER 78
SQ SEQUENCE 78 AA; 9131 MW; 7EE20DDFFC17847C CRC64;

Query Match 73.1%; Score 57; DB 6; Length 78;
Best Local Similarity 76.9%; Pred. No. 0.0037;
Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRCPVTEE 13
DB 25 CNDESLECPTEE 37

RESULT 11
Q9MZB1 PRELIMINARY; PRT; 118 AA.
ID Q9MZB1
AC Q9MZB1
DT 01-OCT-2000 (TREMBlrel. 15, Created)

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DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE Vascular endothelial growth factor (Fragment).
GN VEGF.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovioidea;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Placental artery endothelium;
RA Zheng J., Tsol S.C., Magness R.R.;
RT "Growth factor expression in ovine fetal placental artery endothelial cells.";
RL Submitted (MAR-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF250375; AAF75258.1; --
DR HSSP; P49763; 1FZV.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS0278; PDGF_2; 1.
FT NON_TER 1
FT NON_TER 123
SQ SEQUENCE 118 AA; 13931 MW; 757DC53AA56378A6 CRC64;

Query Match 73.1%; Score 57; DB 6; Length 118;
Best Local Similarity 76.9%; Pred. No. 0.0055;
Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMRCPVTEE 13
DB 58 CNDESLECPTEE 70

RESULT 12
Q9NIS1 PRELIMINARY; PRT; 123 AA.
ID Q9NIS1
AC Q9NIS1;
DT 01-OCT-2000 (TREMBlrel. 15, Created)
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE Vascular endothelial growth factor isoform 165 (Fragment).
GN VEGF.
OS Capreolus capreolus (Roe deer).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervioidea;
OC Cervidae; Odocoileinae; Capreolus.
OX NCBI_TaxID=9858;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Testis;
RX MEDLINE-20532861; PubMed-11078967;
RA Wagener A., Blotner S., Goritz F., Fickel J.;
RT "Detection of growth factors in the testis of roe deer (Capreolus capreolus).";
RL Anim. Reprod. Sci. 64:65-75(2000).
DR EMBL; AF152594; AAF73233.1; --
DR HSSP; P49763; 1FZV.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS0278; PDGF_2; 1.
FT NON_TER 1
FT NON_TER 123
SQ SEQUENCE 123 AA; 14354 MW; 0A756F54105A4CE1 CRC64;

Query Match 73.1%; Score 57; DB 6; Length 123;
Best Local Similarity 76.9%; Pred. No. 0.0058;
Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

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QY 1 CNSEMECVPTTEE 13
 II I IIIIIII
 Db 25 CNDESECVPTTEE 37

RESULT 13

Q8MJ86 PRELIMINARY; PRT; 131 AA.
 AC Q8MJ86;
 DT 01-OCT-2002 (TREMblrel. 22, Created)
 DT 01-OCT-2002 (TREMblrel. 22, Last sequence update)
 DT 01-MAR-2003 (TREMblrel. 23, Last annotation update)
 DE Vascular endothelial growth factor-3 (Fragment).
 OS Capreolus capreolus (Roe deer).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidae;
 OC Cervidae; Odocoileinae; Capreolus.
 OX NCBI_TaxID=9858;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-Testis;
 RA Wagener A., Fickel J.;
 RT "Detection of VEGF in roe deer testis."
 RL Submitted (MAY-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF514284; AAM49789.1;
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 FT NON_TER 1
 FT NON_TER 131
 SQ SEQUENCE 131 AA; 15358 MW; 99719A58EEAC7FCA CRC64;

Query Match 73.1%; Score 57; DB 6; Length 131;
 Best Local Similarity 76.9%; Pred. No. 0.0061;
 Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMECVPTTEE 13
 II I IIIIIII
 Db 3 CNDESECVPTTEE 15

RESULT 14

O77643 PRELIMINARY; PRT; 190 AA.
 AC O77643;
 DT 01-NOV-1998 (TREMblrel. 08, Created)
 DT 01-NOV-1998 (TREMblrel. 08, Last sequence update)
 DT 01-MAR-2003 (TREMblrel. 23, Last annotation update)
 DE Vascular endothelial growth factor
 GN VEGF.
 OS Ovis aries (Sheep).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidae;
 OC Bovidae; Caprinae; Ovis.
 OX NCBI_TaxID=9940;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Columbia-Rambouillet;
 RA Cheung C.Y., Brace R.A.;
 RT "Ovine vascular endothelial growth factor: Nucleotide sequence and expression in fetal tissues."
 RL Growth factors 0:0-0(1998).
 DR EMBL; AF071015; AAC23608.1;
 DR HSSP; P49763; IFZV.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.

SQ SEQUENCE 190 AA; 22342 MW; 0D5E3B3E5C53E739 CRC64;

Query Match 73.1%; Score 57; DB 6; Length 190;
 Best Local Similarity 76.9%; Pred. No. 0.0088;
 Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNSEMECVPTTEE 13
 II I IIIIIII
 Db 86 CNDESECVPTTEE 98

RESULT 15

O88911 PRELIMINARY; PRT; 110 AA.
 AC O88911;
 DT 01-NOV-1998 (TREMblrel. 08, Created)
 DT 01-NOV-1998 (TREMblrel. 08, Last sequence update)
 DT 01-MAR-2003 (TREMblrel. 23, Last annotation update)
 DE Vascular endothelial growth factor A 110 (Fragment).
 GN VEGF.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Chordata; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Sprague-Dawley; TISSUE=Penis;
 RX MEDLINE=99115228; PubMed=9916007;
 RA Burchardt M., Burchardt T., Chen M.W., Shabsigh A., de la Taille A.,
 RA Buttyan R., Shabsigh R.;
 RT "Expression of messenger ribonucleic acid splice variants for vascular endothelial growth factor in the penis of adult rats and humans."
 RL Biol. Reprod. 60:398-404(1999).
 DR EMBL; AF080594; AAC36708.1;
 DR HSSP; P49763; IFZV.
 DR InterPro; IPR002400; GF_cysknot.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR PRINTS; PR00438; GFCYSKNOT.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 FT NON_TER 1
 FT NON_TER 110
 SQ SEQUENCE 110 AA; 12713 MW; B81B79AC08D89F06 CRC64;

Query Match 71.8%; Score 56; DB 11; Length 110;
 Best Local Similarity 71.4%; Pred. No. 0.008;
 Matches 10; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 CNSEMECVPTTES 14
 II I IIIIIII
 Db 60 CNDESECVPTSES 73

Search completed: July 24, 2003 14:47:23
 Job time : 26.7059 secs

10-APR-2000; 2000WO-US09483.

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XX PR 16-APR-1999; 99US-0129788.
XX PR 23-FEB-2000; 2000US-0184235.
XX PA (GETH ) GENENTECH INC.
XX PI Cunningham B, Abraham D, Li B;
XX DR WPI; 2000-672736/65.
XX XX
XX PT Vascular endothelial growth factor variant useful for detecting kinase
XX PT domain region receptor for diagnostic purposes, comprises one or more
XX PT amino acid mutations in native VEGF and has selective binding affinity
XX PT for the receptor
XX PS
XX PS Claim 4; Page -: 70pp; English.
XX CC The present invention relates to mutant human vascular endothelial
XX CC growth factor (VEGF) proteins (AAB28233-B28236). The present sequence is
XX CC one such mutant. The mutant VEGF proteins have selective binding affinity
XX CC for kinase domain region (KDR) receptor. The mutant VEGF proteins are
XX CC useful for detecting KDR receptors for diagnostic purposes. In addition,
XX CC the mutant VEGF proteins are useful for stimulating vasculogenesis or
XX CC angiogenesis by exposing mammalian cells expressing a KDR receptor to
XX CC the mutant proteins to treat trauma to the vascular network caused by
XX CC surgical incisions, wounds, lacerations, penetration of blood vessels
XX CC and surface ulcers.
XX CC Note: the present sequence is not shown in the specification but is
XX CC derived from the wild-type human VEGF sequence given in Fig 1.
XX SQ Sequence 191 AA;

Query Match 100.0%; Score 110; DB 21; Length 191;
Best Local Similarity 100.0%; Pred. No. 6.4e-10;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
Db ||||| ||||| ||||| ||||| |||||
37 HHEVVKFEDVLRSSCHPIE 56

RESULT 2
AAB28235
ID AAB28235 standard; Protein: 191 AA.
XX AC AAB28235;
XX DT 13-FEB-2001 (first entry)
XX DE Mutant human VEGF #3.
XX XX
XX KW Human; vascular endothelial growth factor; VEGF; mutein; mutation;
XX KW kinase domain region receptor; KDR; vasculogenesis; angiogenesis;
XX KW surgical incision; wound; laceration; blood vessel; ulcer.
XX OS Homo sapiens.
XX OS Synthetic.
XX XX
XX FH Key Location/Qualifiers
XX FT Misc-difference 44 /note= "Wild-type Met substituted by Glu"
XX FT Misc-difference 89 /note= "Wild-type Asp substituted by Ser"
XX FT Misc-difference 91 /note= "Wild-type Gly substituted by Met"
XX FT Misc-difference 92 /note= "Wild-type Leu substituted by Arg"
XX XX
XX PN WO200063380-A1.
XX XX 26-OCT-2000.
XX XX 10-APR-2000; 2000WO-US09483.

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XX PR 16-APR-1999; 99US-0129788.
XX PR 23-FEB-2000; 2000US-0184235.
XX PA (GETH ) GENENTECH INC.
XX PI Cunningham B, Abraham D, Li B;
XX DR WPI; 2000-672736/65.
XX XX
XX PT Vascular endothelial growth factor variant useful for detecting kinase
XX PT domain region receptor for diagnostic purposes, comprises one or more
XX PT amino acid mutations in native VEGF and has selective binding affinity
XX PT for the receptor
XX PS
XX PS Claim 6; Page -: 70pp; English.
XX CC The present invention relates to mutant human vascular endothelial
XX CC growth factor (VEGF) proteins (AAB28233-B28236). The present sequence is
XX CC one such mutant. The mutant VEGF proteins have selective binding affinity
XX CC for kinase domain region (KDR) receptor. The mutant VEGF proteins are
XX CC useful for detecting KDR receptors for diagnostic purposes. In addition,
XX CC the mutant VEGF proteins are useful for stimulating vasculogenesis or
XX CC angiogenesis by exposing mammalian cells expressing a KDR receptor to
XX CC the mutant proteins to treat trauma to the vascular network caused by
XX CC surgical incisions, wounds, lacerations, penetration of blood vessels
XX CC and surface ulcers.
XX CC Note: the present sequence is not shown in the specification but is
XX CC derived from the wild-type human VEGF sequence given in Fig 1.
XX SQ Sequence 191 AA;

Query Match 86.4%; Score 95; DB 21; Length 191;
Best Local Similarity 85.0%; Pred. No. 1.8e-07;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
Db ||||| ||||| ||||| ||||| |||||
37 HHEVVKFEDVLRSSCHPIE 56

RESULT 3
AAB28236
ID AAB28236 standard; Protein: 191 AA.
XX AC AAB28236;
XX DT 13-FEB-2001 (first entry)
XX DE Mutant human VEGF #4.
XX XX
XX KW Human; vascular endothelial growth factor; VEGF; mutein; mutation;
XX KW kinase domain region receptor; KDR; vasculogenesis; angiogenesis;
XX KW surgical incision; wound; laceration; blood vessel; ulcer.
XX OS Homo sapiens.
XX OS Synthetic.
XX XX
XX FH Key Location/Qualifiers
XX FT Misc-difference 47 /note= "Wild-type Tyr substituted by Leu"
XX FT Misc-difference 89 /note= "Wild-type Asp substituted by Ser"
XX FT Misc-difference 91 /note= "Wild-type Gly substituted by Met"
XX FT Misc-difference 92 /note= "Wild-type Leu substituted by Arg"
XX XX
XX PN WO200063380-A1.
XX XX 26-OCT-2000.
XX XX 10-APR-2000; 2000WO-US09483.

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XX PR 16-APR-1999; 99US-0129788.
 PR 23-FEB-2000; 2000US-0184235.
 XX PA (GETH) GENENTECH INC.
 XX PI Cunningham B, Abraham D, Li B;
 XX DR WPI; 2000-672736/65.
 XX PR Vascular endothelial growth factor variant useful for detecting kinase
 PT domain region receptor for diagnostic purposes, comprises one or more
 PT amino acid mutations in native VEGF, and has selective binding affinity
 PT for the receptor
 XX PS Claim 7; Page -: 70pp; English.
 XX CC The present invention relates to mutant human vascular endothelial
 CC growth factor (VEGF) proteins (AAB28233-B28236). The present sequence is
 CC one such mutant. The mutant VEGF proteins have selective binding affinity
 CC for kinase domain region (KDR) receptor. The mutant VEGF proteins are
 CC useful for detecting KDR receptors for diagnostic purposes. In addition,
 CC the mutant VEGF proteins are useful for stimulating vasculogenesis or
 CC angiogenesis by exposing mammalian cells expressing a KDR receptor to
 CC the mutant proteins to treat trauma to the vascular network caused by
 CC surgical incisions, wounds, lacerations, penetration of blood vessels
 CC and surface ulcers.
 CC Note: the present sequence is not shown in the specification but is
 CC derived from the wild-type human VEGF sequence given in Fig 1.
 XX SQ Sequence 191 AA;

Query Match 84.5%; Score 93; DB 21; Length 191;
 Best Local Similarity 85.0%; Pred. No. 3.9e-07;
 Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 HHEVVKFEDVLRSSCHPIE 20
 ||||| ||| |||||
 Db 37 HHEVVKFMDVLRQSYCHPIE 56

RESULT 4
 AAU08422
 ID AAU08422 standard; Protein; 54 AA.
 AC AAU08422;
 XX DT 21-NOV-2001 (first entry)
 XX DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-16.
 XX KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KW cardiovascular; VEGF-C; mutant; mutein.
 XX OS Homo sapiens.
 XX OS Synthetic.
 XX FH Key Location/Qualifiers
 FT Domain 1..54
 FT /note="VEGF receptor binding domain"
 XX PN WO200162942-A2.
 XX PD 30-AUG-2001.
 XX PF 26-FEB-2001; 2001WO-US06113.
 XX PR 25-FEB-2000; 2000US-0185205.
 PR 18-MAY-2000; 2000US-0205331.
 XX PA (LUDW-) LUDWIG INST CANCER RES.

PA (LICN) LICENTIA OY.
 XX PI Alitalo K, Jeltsch MM;
 XX DR WPI; 2001-536640/59.
 DR N-PSDB; AAS12859..
 XX PT Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them
 XX PS Example 3; Page 200; 261pp; English.
 XX CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 12-16.
 XX SQ Sequence 54 AA;

Query Match 80.0%; Score 88; DB 22; Length 54;
 Best Local Similarity 80.0%; Pred. No. 6.2e-07;
 Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

OY 1 HHEVVKFEDVLRSSCHPIE 20
 ||||| ||| |||||
 Db 4 HHEVVKFMDVYORSYCHPIE 23

RESULT 5
 AAE32330
 ID AAE32330 standard; Protein; 101 AA.
 XX AC AAE32330;
 XX DT 24-MAR-2003 (first entry)
 XX DE Human VEGF-A receptor binding domain.
 XX KW Vascular endothelial growth factor; VEGF; angiogenesis; wound healing;
 KW bone growth; osteoporosis; osteoarthritis; bone reconstruction; ulcer;
 KW lesion; injury; trauma; periodontal condition; protein therapy; human.
 XX OS Homo sapiens.
 XX PN WO200283851-A2.
 XX PD 24-OCT-2002.
 XX PF 10-APR-2002; 2002WO-US11406.
 XX PR 10-APR-2001; 2001US-0832355.
 XX PA (GENV-) GENVEC INC.
 XX PI Kovesdi I, Kessler PD;
 XX DR WPI; 2003-075536/07.
 XX PT New fusion protein comprising a non-heparin-binding vascular
 PT endothelial growth factor (VEGF) peptide portion and a non-VEGF peptide
 PT portion, useful for promoting angiogenesis and/or bone growth in
 PT mammals

XX PS Disclosure; Page 118-119; 191pp; English.

XX CC The invention relates to a fusion protein comprising non-heparin binding

XX CC vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF

XX CC peptide portion useful for promoting angiogenesis and/or bone growth in

XX CC mammalian host. The fusion protein is useful for promoting angiogenesis,

XX CC wound healing and bone growth. Compositions containing bone growth

XX CC promoting fusion protein can be used to treat osteoporosis, rheumatoid

XX CC or osteoarthritis, to improve poor bone healing, to promote implant

XX CC integration and function of artificial joints and to facilitate bone

XX CC reconstruction. They can also be used to treat e.g. ulcers, lesions,

XX CC injuries, burns, trauma, periodontal conditions, lacerations and other

XX CC conditions. The invention is also useful in protein therapy. The present

XX CC sequence is human VEGF-A receptor binding domain.

XX SQ Sequence 101 AA;

Query Match 80.0%; Score 88; DB 24; Length 101;

Best Local Similarity 80.0%; Pred. NO. 1.2e-06;

Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

OY 1 HHEVVKFEDVLRSSCHPIE 20

DB 3 HHEVVKFMDVYQSYCHPIE 22

RESULT 6

AAU08484

ID AAU08484 standard; Peptide: 102 AA.

AC AAU08484;

XX 21-NOV-2001 (first entry)

XX VEGFR-1 binding epitope from human VEGF-A.

XX Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;

XX angiogenesis; blood vessel; cancer; proliferative retinopathy;

XX psoriasis; age-related macular degeneration; rheumatoid arthritis;

XX cardiovascular; VEGFR-1.

XX Homo sapiens.

XX WO200162942-A2.

XX 30-AUG-2001.

XX 26-FEB-2001; 2001WO-US06113.

XX 25-FEB-2000; 2000US-0185205.

XX 18-MAY-2000; 2000US-0205331.

XX (LUDW-) LUDWIG INST CANCER RES.

XX (LICN) LICENTIA OY.

XX Alitalo K, Jeltsch MM;

XX WPI; 2001-536640/59.

XX Polypeptides that bind cellular receptors for vascular endothelial

XX growth factors, polynucleotides encoding them -

XX Example 4; Page 115; 261pp; English.

XX The present invention relates to polypeptides that bind cellular

XX receptors for vascular endothelial growth factors (VEGFs), the

XX polynucleotides encoding them, and their use for identifying agents that

XX modulate interactions between VEGFs and their receptors. VEGFs and their

XX receptors play an important role in vasculogenesis, the development of

XX the embryonic vasculature from early differentiating endothelial cells

XX and angiogenesis, the process of forming new blood vessels from

XX pre-existing ones. Modulators of interactions between VEGF and its

XX receptors may be used to treat dysfunction of the endothelial cell

XX regulatory system. Such disorders include cancers, abnormal angiogenesis,

XX proliferative retinopathies, age-related macular degeneration, rheumatoid

XX arthritis and psoriasis. The polypeptides of the invention exhibit unique

XX receptor binding profiles compared to known naturally occurring VEGFs.

XX The present sequence represents VEGFR-1 binding epitope from human

XX VEGF-A.

XX SQ Sequence 102 AA;

Query Match 80.0%; Score 88; DB 22; Length 102;

Best Local Similarity 80.0%; Pred. NO. 1.3e-06;

Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

OY 1 HHEVVKFEDVLRSSCHPIE 20

DB 4 HHEVVKFMDVYQSYCHPIE 23

RESULT 7

AAU08407

ID AAU08407 standard; Protein: 105 AA.

XX AC AAU08407;

XX 21-NOV-2001 (first entry)

XX Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-1.

XX Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;

XX angiogenesis; blood vessel; cancer; proliferative retinopathy;

XX psoriasis; age-related macular degeneration; rheumatoid arthritis;

XX cardiovascular; VEGF-C; mutant; mutein.

XX Homo sapiens.

XX OS Synthetic.

XX Key Location/Qualifiers

FT Domain 1..102

FT /note= "VEGF receptor binding domain"

XX WO200162942-A2.

XX 30-AUG-2001.

XX 26-FEB-2001; 2001WO-US06113.

XX 25-FEB-2000; 2000US-0185205.

XX 18-MAY-2000; 2000US-0205331.

XX (LUDW-) LUDWIG INST CANCER RES.

XX (LICN) LICENTIA OY.

XX Alitalo K, Jeltsch MM;

XX WPI; 2001-536640/59.

XX N-PSDB; AAS12844.

XX Polypeptides that bind cellular receptors for vascular endothelial

XX growth factors, polynucleotides encoding them -

XX Claim 35; Page 182; 261pp; English.

XX The present invention relates to polypeptides that bind cellular

XX receptors for vascular endothelial growth factors (VEGFs), the

XX polynucleotides encoding them, and their use for identifying agents that

XX modulate interactions between VEGFs and their receptors. VEGFs and their

XX receptors play an important role in vasculogenesis, the development of

XX the embryonic vasculature from early differentiating endothelial cells

XX and angiogenesis, the process of forming new blood vessels from

XX pre-existing ones. Modulators of interactions between VEGF and its

XX receptors may be used to treat dysfunction of the endothelial cell

XX regulatory system. Such disorders include cancers, abnormal angiogenesis,

CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 12-1.

XX
 SQ Sequence 105 AA;
 Query Match 80.0%; Score 88; DB 22; Length 105;
 Best Local Similarity 80.0%; Pred. No. 1.3e-06;
 Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 QY 1 HHEVVKFEDVLRSSCHPIE 20
 ||||| || || |||||
 Db 4 HHEVVKFMDVYQSYCHPIE 23

RESULT 8
 AAU08411
 ID AAU08411 standard; Protein; 105 AA.
 XX AC AAU08411;
 XX DT 21-NOV-2001 (first entry)
 XX DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-5.
 XX KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 XX KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KW cardiovascular; VEGF-C; mutant; mutein.
 XX OS Homo sapiens.
 OS Synthetic.

XX FH Key Location/Qualifiers
 FT Domain 1..102
 FT /note= "VEGF receptor binding domain"
 XX WO200162942-A2.
 XX PD 30-AUG-2001.
 XX PF 26-FEB-2001; 2001WO-US06113.
 XX PR 25-FEB-2000; 2000US-0185205.
 PR 18-MAY-2000; 2000US-0205331.
 XX PA (LUDW-) LUDWIG INST CANCER RES.
 PA (LICN) LICENTIA OY.
 XX PI Alitalo K, Jeltsch MW;
 XX DR WPI; 2001-536640/59.
 DR N-PSDB; AAS12848.
 XX PT Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -
 XX Claim 36; Page 186-187; 26lpp; English.

XX The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique

CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 12-5.

XX
 SQ Sequence 105 AA;
 Query Match 80.0%; Score 88; DB 22; Length 105;
 Best Local Similarity 80.0%; Pred. No. 1.3e-06;
 Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 QY 1 HHEVVKFEDVLRSSCHPIE 20
 ||||| || || |||||
 Db 4 HHEVVKFMDVYQSYCHPIE 23

RESULT 9
 AAU08420
 ID AAU08420 standard; Protein; 105 AA.
 XX AC AAU08420;
 XX DT 21-NOV-2001 (first entry)
 XX DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-14.
 XX KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 XX KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KW cardiovascular; VEGF-C; mutant; mutein.
 XX OS Homo sapiens.
 OS Synthetic.

XX FH Key Location/Qualifiers
 FT Domain 1..104
 FT /note= "VEGF receptor binding domain"
 XX WO200162942-A2.
 XX PD 30-AUG-2001.
 XX PF 26-FEB-2001; 2001WO-US06113.
 XX PR 25-FEB-2000; 2000US-0185205.
 PR 18-MAY-2000; 2000US-0205331.
 XX PA (LUDW-) LUDWIG INST CANCER RES.
 PA (LICN) LICENTIA OY.
 XX PI Alitalo K, Jeltsch MW;
 XX DR WPI; 2001-536640/59.
 DR N-PSDB; AAS12857.
 XX PT Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -
 XX Claim 41; Page 198; 26lpp; English.

XX The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human

CC VEGF-A/VEGF-C hybrid construct clone, 12-14.
 XX
 SQ Sequence 105 AA;
 Query Match 80.0%; Score 88; DB 22; Length 105;
 Best Local Similarity 80.0%; Pred. No. 1.3e-06;
 Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

OY 1 HHEVVKFEDVLRSSCHPIE 20
 DB 4 HHEVVKFMDVYQSYCHPIE 23
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RESULT 10
 AAU08467
 ID AAU08467 standard; Protein; 105 AA.
 AC AAU08467;
 XX
 XX 21-NOV-2001 (first entry)
 DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 14-9.
 KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KW cardiovascular; VEGF-C; mutant; mutin.
 XX
 OS Homo sapiens.
 OS Synthetic.
 XX
 XX WO200162942-A2.
 PN
 XX 30-AUG-2001.
 PD
 XX 26-FEB-2001; 2001WO-US06113.
 PF
 XX 25-FEB-2000; 2000US-0185205.
 PR 18-MAY-2000; 2000US-0205331.
 XX
 XX (LUDW-) LUDWIG INST CANCER RES.
 PA (LICN) LICENTIA OY.
 XX
 XX Alitalo K; Jeltsch MM;
 PI
 XX WPI; 2001-536640/59.
 DR N-PSDB; AAS12886.
 XX
 XX Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them
 PS
 XX Claim 42; Page 249; 261pp; English.
 CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 14-9.
 XX
 SQ Sequence 105 AA;
 Query Match 80.0%; Score 88; DB 22; Length 105;
 Best Local Similarity 80.0%; Pred. No. 1.3e-06;

Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

OY 1 HHEVVKFEDVLRSSCHPIE 20
 DB 4 HHEVVKFMDVYQSYCHPIE 23
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RESULT 11
 AAY69417
 ID AAY69417 standard; Protein; 110 AA.
 XX
 AC AAY69417;
 XX
 XX 03-JUL-2000 (first entry)
 DE Amino acid sequence of vascular endothelial growth factor 110.
 XX
 DE Human; vascular endothelial growth factor; VEGF 110; angiogenic factor;
 KW blood vessel injury; vascular injury; microvascular angiopathy;
 KW thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome;
 KW toxic shock syndrome; venom; hypercoagulable state; platelet activation;
 KW platelet aggregation; thrombosis; preclampsia; sepsis; pancreatitis;
 KW intravascular coagulation; thrombotic thrombocytopenia purpura;
 KW acute renal failure; myocardial infarction; ischemic bowel disease;
 KW stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury;
 KW acute respiratory distress syndrome; pneumonia; pulmonary emboli;
 KW birth prematurity disorder; wound; allergy; hypersensitivity;
 KW autoimmune disease; organ transplant; focal glomerulosclerosis;
 KW amyloidosis.
 XX
 XX Homo sapiens.
 OS
 XX WO200013702-A2.
 PN
 XX 16-MAR-2000.
 PD
 XX 09-SEP-1999; 99WO-US20480.
 PF
 XX 09-SEP-1998; 98US-0099694.
 PR 26-MAR-1999; 99US-0126406.
 PR 27-MAR-1999; 99US-0126615.
 XX
 XX (SCIO-) SCIOS INC.
 PA
 XX Schreiner GF, Johnson RJ;
 PI
 XX WPI; 2000-256861/22.
 DR
 XX Novel methods and compositions for the prevention and treatment of
 PT microvascular angiopathies by administration of angiogenic factors such
 PT as vascular endothelial growth factor (VEGF)
 PS
 XX Disclosure; Fig 12; 46pp; English.
 CC The present sequence represents native human vascular endothelial growth
 CC factor (VEGF) 110. VEGF is an angiogenic factor. VEGF proteins are used
 CC for the prevention or repair of injury to blood vessels or associated
 CC nonvascular tissues (served by the blood vessels) and for the prevention
 CC and repair of vascular injury associated with microvascular angiopathy,
 CC particularly thrombotic microangiopathy. The proteins methods may also
 CC be used for the prevention and treatment of kidney diseases associated
 CC with injury to, or atrophy of, the vasculature of the glomerulus and
 CC interstitium. Conditions which may be treated include haemolytic uremic
 CC syndrome, toxic shock syndrome, venom exposure, chemical exposure,
 CC hypercoagulable states, platelet activation or aggregation, thrombosis,
 CC preclampsia, thrombotic thrombocytopenia purpura, disseminated
 CC intravascular coagulation, sepsis, pancreatitis, acute renal failure,
 CC myocardial infarction, ischemic bowel disease, transient ischemic
 CC attacks, stroke, hypoxia or hypercapnia or fibrosis arising from lung
 CC endothelium injury, acute respiratory distress syndrome, toxic alveolar
 CC injury, pneumonia, pulmonary emboli, birth prematurity disorders,
 CC wounds, allergic reactions, hypersensitivity, autoimmune diseases, organ
 CC transplants, focal glomerulosclerosis, and amyloidosis.

XX
SQ Sequence 110 AA;
Query Match 80.08; Score 88; DB 21; Length 110;
Best Local Similarity 80.08; Pred. No. 1.4e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
OY 1 HHEVVKFEDVLRSSCHPIE 20
DB 11 HHEVVKFEDVLRSSCHPIE 30
RESULT 12
AAV83038
ID AAV83038 standard; Protein; 110 AA.
XX AC AAV83038;
XX DT 04-JUL-2000 (first entry)
XX DE Human vascular endothelial growth factor (hVEGF110).
XX KW Vascular endothelial growth factor; human; angiogenesis; VEGF;
KW capillary formation; hypertension; treatment; kidney; CNS; stroke;
KW meningitis; central nervous system; tumour; infection; bone growth;
KW hypoxia; hypercapnia; fibrosis; inflammatory bowel disease;
KW diarrhoea; allografts; cardiac valve.
XX OS Homo sapiens.
XX PN WO200013703-A2.
XX PD 16-MAR-2000.
XX PF 09-SEP-1999; 99WO-US20481.
XX PR 09-SEP-1998; 98US-0099694.
XX PR 26-MAR-1999; 99US-0126406.
XX PR 27-MAR-1999; 99US-0126615.
XX PA (SCIO-) SCIOS INC.
XX PI Schreiner GF, Johnson RJ;
XX DR WPI; 2000-256862/22.
XX PT Novel methods for treating hypertension by administering a factor which
PT increases angiogenesis and/or vascular permeability
XX PS Disclosure; Figure 11; 51pp; English.
XX CC Administering vascular endothelial growth factor (VEGF) can be used
CC for treating hypertension (especially salt-dependent hypertension)
CC Administering VEGF promotes angiogenesis and/or vascular or
CC capillary permeability. The method is also useful in treating
CC disorders related to abnormal transport of solutes across endothelial
CC cells. Such disorders include the treatment or prevention of kidney
CC disease associated with impaired filtration or excretion of solutes;
CC the treatment or prevention of diseases of the central nervous system
CC associated with alterations in cerebrospinal fluid, e.g. stroke,
CC meningitis, tumour, infections, and bone growth disorders; treatment
CC or prevention of hypoxia or hypercapnia or fibrosis arising from
CC accumulation of fluid secretions in the lungs, e.g. acute respiratory
CC distress syndrome, toxic alveolar injury, pneumonia, infections,
CC surgical intervention, cystic fibrosis; treatment or prevention of
CC pulmonary dysfunction arising from injury to the pulmonary
CC endothelium, including disorders arising from premature birth, and
CC pulmonary hypertension; treatment or prevention of disease arising
CC from disordered transport of fluid and solutes across the intestinal
CC epithelium, e.g. inflammatory bowel disease, diarrhoea; treatment or
CC prevention of ascites accumulation in the peritoneum; enhancement of
CC efficacy of solute flux; preservation or enhancement of function of
CC organ allografts; and treatment of cardiac valve disease. This

CC sequence is the native human vascular endothelial growth
CC factor hVEGF110. The activity of VEGF is mediated by interaction
CC with specific receptors on target tissues, most notably the vascular
CC endothelium. VEGF exists as five different length monomer chains due
CC to alternative splicing of the VEGF RNA transcript.
XX SQ Sequence 110 AA;
Query Match 80.08; Score 88; DB 21; Length 110;
Best Local Similarity 80.08; Pred. No. 1.4e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
OY 1 HHEVVKFEDVLRSSCHPIE 20
DB 11 HHEVVKFEDVLRSSCHPIE 30
RESULT 13
AAG79276
ID AAG79276 standard; peptide; 110 AA.
XX AC AAG79276;
XX DT 03-JAN-2002 (first entry)
XX DE Primary sequence of vascular endothelial growth factor (VEGF).
XX KW Kinase domain receptor; KDR; vascular endothelial growth factor; VEGF;
KW VEGF antibody; angiogenesis; cancer; diabetic retinopathy; psoriasis;
KW hemangioblastoma; Kaposi's sarcoma.
XX OS Unidentified.
XX PN WO200172829-A2.
XX PD 04-OCT-2001.
XX PF 29-MAR-2001; 2001WO-1B00577.
XX PR 31-MAR-2000; 2000US-193396P.
XX PA (INSP) INST PASTEUR.
PA (CNRS) CNRS CENT NAT RECH SCI.
PA (UYPA) UNIV PARIS 13 NORD.
XX PI Tournaire R, Demangel C, Derbin C, Mazie J, Plouet J;
PI Vassy R;
XX DR WPI; 2001-616471/71.
XX PT Novel peptides inhibiting binding of vascular endothelial growth factor
PT (VEGF) to kinase domain receptor, or inhibiting binding of anti-VEGF
PT antibody to VEGF, useful for treating diabetic retinopathy and
PT psoriasis
XX PS Example; page 21; 55pp; English.
XX CC The present sequence represents vascular endothelial growth factor
CC (VEGF). The specification describes peptides which bind to an
CC anti-VEGF antibody or which bind to a kinase domain receptor (KDR).
CC The peptides inhibit the binding of VEGF to KDR, and inhibit binding
CC of anti-VEGF antibody to VEGF. The peptides are useful for inhibiting
CC angiogenesis and for treating diseases including cancer, diabetic
CC retinopathy, psoriasis, hemangioblastoma, and Kaposi's sarcoma.
XX SQ Sequence 110 AA;
Query Match 80.08; Score 88; DB 22; Length 110;
Best Local Similarity 80.08; Pred. No. 1.4e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
OY 1 HHEVVKFEDVLRSSCHPIE 20
DB 11 HHEVVKFEDVLRSSCHPIE 30

Matches	16;	Conservative	1;	Mismatches	3;	Indels	0;	Gaps	0;
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Db 11 HHEVVKFMDVYQRSYCHPIE 30

RESULT 15

ABB76304
ID ABB76304 standard; Protein; 110 AA.

AC 88B76304:

[illegible]KW antidiarrhoeic
KW antidiarrhoeic
KW antidiarrhoeicKW
XX
angiogenic faXX
CO
enard ne owor

PN US6352975-B1.
XX

FD-03-MAR-2002.
XX

09-SEP-1999;
PF
XX

PR 09-SEP-1998;
PR 26-MAR-1999;PR 27-MAR-1999;
XX

PI Schreiner GF, WPI: 2002-412

New method.

Disclosure; Fig 11; 30pp: English.

The present sequence is the protein sequence of human vascular endothelial growth factor 110 (hVEGF110). The present invention concerns methods for the treatment of salt-sensitive hypertension by administering a VEGF in an amount effective to reduce the blood pressure of a salt-sensitive hypertension patient to a normal range. The VEGF is preferably hVEGF121 (see AB676299) or a VEGF that has had its heparin-binding domain modified to render it incapable of binding heparin, e.g. by amino acid alteration. VEGF110 is not one of the preferred VEGF molecules. The method can also be used to treat disorders relating to abnormal transport of solutes across endothelial cells, including treatment or prevention of kidney disease associated with impaired filtration or excretion of solutes, central nervous system diseases associated with alterations in cerebrospinal fluid synthesis, composition or circulation including stroke, meningitis, tumour, infections, and disorders of bone growth, hypoxia or hypercapnia or fibrosis arising from accumulation of fluid secretions in lungs or impediments to their removal, including acute respiratory distress syndrome, toxic alveolar injury as occurs in smoke inhalation, pneumonia including viral and bacterial infections, surgical interventions, cystic fibrosis, and other inherited or acquired disease of the lung associated with fluid accumulation in the pulmonary air space, pulmonary endothelium injury, disordered transport of fluid and solutes across the intestinal epithelium, including inflammatory bowel disease, infections, diarrhoea, ascites accumulation in the peritoneum as occurs in the failure of

CC disease of airways
CC pulmonary airways

CC transport of fluid and solutes across the intestinal epithelium,
CC including inflammatory bowel disease, infections, diarrhoea,
CC ascites accumulation in the peritoneum as occurs in the failure of

CC heart, liver and kidney, preservation and enhancement of function
 CC of organ allografts, and cardiac valve disease.

XX
 SQ Sequence 110 AA;

Query Match 80.0%; Score 88; DB 23; Length 110;
 Best Local Similarity 80.0%; Pred. No. 1:4e-06;
 Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
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 Db 11 HHEVAFMDVYQSYCHPIE 30

Search completed: July 24, 2003, 14:45:44
 Job time : 68.7353 secs

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OM protein - protein search, using sw model

Run on: July 24, 2003, 14:43:50 ; Search time 17.0588 Seconds
(without alignments)
49.606 Million cell updates/sec

Title: PEP2

Perfect score: 110

Sequence: 1 HHEVVKFEDVLRSSCHPIE 20

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

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3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep.*

4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep.*

5: /cgn2_6/ptodata/1/iaa/PCRUS_COMB.pep.*

6: /cgn2_6/ptodata/1/iaa/backfiles1.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	88	80.0	37	6 5240848-10	Patent No. 5240848
2	88	80.0	109	3 US-08-691-794-3	Sequence 3, Appl
3	88	80.0	110	4 US-09-392-932-11	Sequence 11, Appl
4	88	80.0	110	4 US-09-574-708A-11	Sequence 11, Appl
5	88	80.0	110	4 US-09-822-270-17	Sequence 17, Appl
6	88	80.0	121	6 5194596-19	Patent No. 5194596
7	88	80.0	121	6 5219739-20	Patent No. 5219739
8	88	80.0	137	4 US-09-037-983C-17	Sequence 17, Appl
9	88	80.0	138	4 US-09-037-983C-16	Sequence 16, Appl
10	88	80.0	141	4 US-09-519-476-2	Sequence 2, Appl
11	88	80.0	145	3 US-08-784-551C-2	Sequence 2, Appl
12	88	80.0	145	4 US-09-392-932-2	Sequence 2, Appl
13	88	80.0	145	4 US-09-574-708A-4	Sequence 4, Appl
14	88	80.0	145	4 US-09-037-983C-1	Sequence 1, Appl
15	88	80.0	147	3 US-08-807-992B-1	Sequence 1, Appl
16	88	80.0	147	4 US-09-392-932-1	Sequence 1, Appl
17	88	80.0	147	4 US-08-706-054A-4	Sequence 4, Appl
18	88	80.0	147	4 US-09-574-708A-2	Sequence 2, Appl
19	88	80.0	147	4 US-09-431-888-3	Sequence 3, Appl
20	88	80.0	147	4 US-09-313-299-4	Sequence 4, Appl
21	88	80.0	164	4 US-09-244-583-24	Sequence 24, Appl
22	88	80.0	165	4 US-08-882-816-3	Sequence 3, Appl
23	88	80.0	165	4 US-08-802-052B-3	Sequence 3, Appl
24	88	80.0	165	6 5194596-18	Patent No. 5194596
25	88	80.0	165	6 5219739-19	Patent No. 5219739
26	88	80.0	188	4 US-09-244-583-28	Sequence 28, Appl
27	88	80.0	191	3 US-08-567-200A-2	Sequence 2, Appl

Sequence 2, Appl
Sequence 2, Appl
Sequence 56, Appl
Sequence 3, Appl
Sequence 56, Appl
Sequence 2, Appl
Sequence 6, Appl
Sequence 4, Appl
Patent No. 5332671
Sequence 26, Appl
Sequence 8, Appl
Patent No. 5240848
Sequence 3, Appl
Sequence 49, Appl
Sequence 49, Appl
Patent No. 5219739
Patent No. 5240848

28 88 80.0 191 3 US-08-807-992B-2
29 88 80.0 191 3 US-08-691-794-2
30 88 80.0 191 3 US-08-795-430-56
31 88 80.0 191 4 US-09-392-932-3
32 88 80.0 191 4 US-09-355-700-56
33 88 80.0 191 4 US-08-882-816-2
34 88 80.0 191 4 US-09-574-708A-6
35 88 80.0 191 4 US-08-802-052B-2
36 88 80.0 191 4 US-09-431-888-4
37 88 80.0 191 6 5332671-4
38 88 80.0 208 4 US-09-244-583-26
39 88 80.0 213 4 US-09-574-708A-8
40 88 80.0 214 6 5240848-11
41 88 80.0 215 3 US-08-807-992B-3
42 88 80.0 215 3 US-08-586-039B-49
43 88 80.0 215 4 US-09-699-769-49
44 88 80.0 215 6 5219739-22
45 88 80.0 215 6 5240848-7

ALIGNMENTS

RESULT 1
5240848-10
; Patent No. 5240848
; APPLICANT: KECK, PAMELA J.; CONNOLLY, DANIEL T.; FEDER, JOSEPH
; TITLE OF INVENTION: DNA SEQUENCES ENCODING HUMAN VASCULAR
; PERMEABILITY FACTOR HAVING 189 AMINO ACIDS
; NUMBER OF SEQUENCES: 11
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/337,037
; FILING DATE: 10-JUL-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 274,061
; FILING DATE: 21-NOV-1988
; SEQ ID NO:10:
; LENGTH: 37
5240848-10

Query Match 80.0%; Score 88; DB 6; Length 37;
Best Local Similarity 80.0%; Pred. No. 1.5e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1: HHEVVKFEDVLRSSCHPIE 20
||||| :|||
Db 11 HHEVVKFMDVQKRSCHPIE 30

RESULT 2
US-08-691-794-3
; Sequence 3, Application US/08691794
; Patent No. 6057428
; GENERAL INFORMATION:
; APPLICANT: Keyt, Bruce A.
; APPLICANT: Nguyen, Francis H.
; APPLICANT: Ferrara, Napoleone
; APPLICANT: Cunningham, Brian C.
; APPLICANT: Wells, James A.
; APPLICANT: Li, Bing
; TITLE OF INVENTION: Variants of Vascular Endothelial Cell
; TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their
; TITLE OF INVENTION: Production
; NUMBER OF SEQUENCES: 45
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Flehr, Hobbach, Test, Albritton & Herbert
; STREET: Four Embarcadero Center, Suite 3400
; CITY: San Francisco
; STATE: California
; COUNTRY: United States
; ZIP: 94111-4187
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/691,794
FILING DATE: 02-AUG-1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/002,827
FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/567,200
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: Dregler, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-63758/WHD
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 109 amino acids
TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
US-08-691-794-3

Query Match 80.0%; Score 88; DB 3; Length 109;
Best Local Similarity 80.0%; Pred. No. 4.8e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 HHEVVKFEDVLRSSCHPIE 20
Db 11 HHEVVKFMDVYQSYCHPIE 30

RESULT 3
US-09-392-932-11
Sequence 11, Application US/09392932
Patent No. 6352975
GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
FILE REFERENCE: SCIOS.002A
CURRENT APPLICATION NUMBER: US/09/392,932
CURRENT FILING DATE: 1999-09-09
EARLIER APPLICATION NUMBER: 60/099,694
EARLIER FILING DATE: 1998-09-09
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 11
LENGTH: 110
TYPE: PRT
ORGANISM: Homo Sapiens
US-09-392-932-11

Query Match 80.0%; Score 88; DB 4; Length 110;
Best Local Similarity 80.0%; Pred. No. 4.8e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 HHEVVKFEDVLRSSCHPIE 20
Db 11 HHEVVKFMDVYQSYCHPIE 30

RESULT 4
US-09-574-708A-11
Sequence 11, Application US/09574708A

Patent No. 6475796
GENERAL INFORMATION:
APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth factor
TITLE OF INVENTION: variants
FILE REFERENCE: SCIOS004A
CURRENT APPLICATION NUMBER: US/09/574,708A
CURRENT FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/135,312
PRIOR FILING DATE: 1999-05-20
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 11
LENGTH: 110
TYPE: PRT
ORGANISM: Homo sapiens
US-09-574-708A-11

Query Match 80.0%; Score 88; DB 4; Length 110;
Best Local Similarity 80.0%; Pred. No. 4.8e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 HHEVVKFEDVLRSSCHPIE 20
Db 11 HHEVVKFMDVYQSYCHPIE 30

RESULT 5
US-09-822-270-17
Sequence 17, Application US/09822270
Patent No. 6559126
GENERAL INFORMATION:
APPLICANT: TOURNAIRE, ROSELYNE
APPLICANT: DEMANGEL, CAROLINE
APPLICANT: DERBIN, CLAUDE
APPLICANT: PERRET, GERARD
APPLICANT: MAZIE, JEAN-CLAUDE
APPLICANT: PLOUET, JEAN
APPLICANT: VASSAY, ROGER
TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MEDIATED
TITLE OF INVENTION: ANGIOGENESIS, POLYNUCLEOTIDES ENCODING SAID PEPTIDES AND METHODS
FILE REFERENCE: 205060USO
CURRENT APPLICATION NUMBER: US/09/822,270
CURRENT FILING DATE: 2001-04-02
PRIOR APPLICATION NUMBER: US 60/193,396
PRIOR FILING DATE: 2000-03-31
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 17
LENGTH: 110
TYPE: PRT
ORGANISM: ARTIFICIAL SEQUENCE
FEATURE:
OTHER INFORMATION: SYNTHETIC PEPTIDE
US-09-822-270-17

Query Match 80.0%; Score 88; DB 4; Length 110;
Best Local Similarity 80.0%; Pred. No. 4.8e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 HHEVVKFEDVLRSSCHPIE 20
Db 11 HHEVVKFMDVYQSYCHPIE 30

RESULT 6
5194596-19
Patent No. 5194596
APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR

NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO: 19
LENGTH: 121
5194596-19

Query Match 80.0%; Score 88; DB 6; Length 121;
Best Local Similarity 80.0%; Pred. No. 5.4e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
IIIIII II : II II
Db 11 HHEVVKFMDVQSYCHPIE 30

RESULT 7

Patent No. 5219739
APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
JOHN C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: DNA SEQUENCES ENCODING BVGF120 AND
HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVGF120 AND HVEGF121.
NUMBER OF SEQUENCES: 40
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO: 20
LENGTH: 121
5219739-20

Query Match 80.0%; Score 88; DB 6; Length 121;
Best Local Similarity 80.0%; Pred. No. 5.4e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
IIIIII II : II II
Db 11 HHEVVKFMDVQSYCHPIE 30

RESULT 8

US-09-037-983C-17
Sequence 17, Application US/09037983C
Patent No. 6583276
GENERAL INFORMATION:
APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 17
LENGTH: 137
TYPE: PRT
ORGANISM: Homo sapiens
US-09-037-983C-17

Query Match 80.0%; Score 88; DB 4; Length 137;
Best Local Similarity 80.0%; Pred. No. 6.2e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
IIIIII II : II II
Db 11 HHEVVKFMDVQSYCHPIE 30

RESULT 9

US-09-037-983C-16
Sequence 16, Application US/09037983C
Patent No. 6583276
GENERAL INFORMATION:
APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 16
LENGTH: 138
TYPE: PRT
ORGANISM: Homo sapiens
US-09-037-983C-16

Query Match 80.0%; Score 88; DB 4; Length 138;
Best Local Similarity 80.0%; Pred. No. 6.2e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
IIIIII II : II II
Db 11 HHEVVKFMDVQSYCHPIE 30

RESULT 10

US-09-519-476-2
Sequence 2, Application US/09519476
Patent No. 6506884
GENERAL INFORMATION:
APPLICANT: MINTZ, Liat et al.
TITLE OF INVENTION: NOVEL NUCLEIC ACID AND AMINO ACID SEQUENCES
FILE REFERENCE: 2786-0149P.
CURRENT APPLICATION NUMBER: US/09/519,476
CURRENT FILING DATE: 2000-03-09
PRIOR APPLICATION NUMBER: IL128852
PRIOR FILING DATE: 1999-03-05
NUMBER OF SEQ ID NOS: 2
SOFTWARE: PatentIn version 3.0
SEQ ID NO 2
LENGTH: 141
TYPE: PRT
ORGANISM: Homo sapiens
US-09-519-476-2

Query Match 80.0%; Score 88; DB 4; Length 141;
Best Local Similarity 80.0%; Pred. No. 6.3e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
IIIIII II : II II
Db 37 HHEVVKFMDVQSYCHPIE 56

RESULT 11

US-08-784-551C-2
Sequence 2, Application US/08784551C

Patent No. 6013780
GENERAL INFORMATION:
APPLICANT: Gera Neufeld
APPLICANT: Eli Keshet
APPLICANT: Israel Vlodavsky
APPLICANT: Zoya Poltorak
TITLE OF INVENTION: ANGIOGENIC FACTOR AND USE THEREOF
TITLE OF INVENTION: IN TREATING CARDIOVASCULAR DISEASE
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSER: Blank, Rome, Comisky & McCauley LLP
STREET: 900 17th Street, N.W.
STREET: Suite 1000
CITY: Washington, D.C.
STATE: N/A
COUNTRY: U.S.A.
ZIP: 20006
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: storage
COMPUTER: IBM Compatible
OPERATING SYSTEM: IBM P.C. DOS 5.0
SOFTWARE: FastSEQ for Windows 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/784,551C
FILING DATE: January 21, 1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Cohen, Herbert
REGISTRATION NUMBER: 25,109
REFERENCE/DOCKET NUMBER: 0274.005/P003
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 463-7700
TELEFAX: (202) 463-6915
TELEX:
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 145 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
US-08-784-551C-2

Query Match 80.0%; Score 88; DB 3; Length 145;
Best Local Similarity 80.0%; Pred. No. 6.5e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
Db 11 HHEVVKFMDVYQSYCHPIE 30

RESULT 12
US-09-392-932-2
Sequence 2, Application US/09392932
Patent No. 6352975
GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
FILE REFERENCE: SCIOS.002A
CURRENT APPLICATION NUMBER: US/09/392,932
CURRENT FILING DATE: 1999-09-09
EARLIER APPLICATION NUMBER: 60/099,694
EARLIER FILING DATE: 1998-09-09
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSEQ for Windows version 4.0
SEQ ID NO 2
LENGTH: 145

TYPE: PRT
ORGANISM: Homo Sapiens
US-09-392-932-2
Query Match 80.0%; Score 88; DB 4; Length 145;
Best Local Similarity 80.0%; Pred. No. 6.5e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
Db 11 HHEVVKFMDVYQSYCHPIE 30

RESULT 13
US-09-574-708A-4
Sequence 4, Application US/09574708A
Patent No. 6475796
GENERAL INFORMATION:
APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth factor
TITLE OF INVENTION: variants
FILE REFERENCE: SCIOS004A
CURRENT APPLICATION NUMBER: US/09/574,708A
CURRENT FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/135,312
PRIOR FILING DATE: 1999-05-20
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 4
LENGTH: 145
TYPE: PRT
ORGANISM: Homo sapiens
US-09-574-708A-4

Query Match 80.0%; Score 88; DB 4; Length 145;
Best Local Similarity 80.0%; Pred. No. 6.5e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
Db 11 HHEVVKFMDVYQSYCHPIE 30

RESULT 14
US-09-037-983C-2
Sequence 2, Application US/09037983C
Patent No. 6583276
GENERAL INFORMATION:
APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular I
FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 2
LENGTH: 145
TYPE: PRT
ORGANISM: Homo sapiens
US-09-037-983C-2

Query Match 80.0%; Score 88; DB 4; Length 145;
Best Local Similarity 80.0%; Pred. No. 6.5e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
Db 11 HHEVVKFMDVYQSYCHPIE 30

Db 11 HHEVVKFMDVYQSYCHPIE 30

RESULT 15

US-08-807-992B-1
; Sequence 1, Application US/08807992B
; Patent No. 6022541
; GENERAL INFORMATION:
; APPLICANT: Senger, Donald R.
; APPLICANT: Dvorak, Harold F.
; TITLE OF INVENTION: Immunological preparation for concurrent
; TITLE OF INVENTION: specific binding to spatially exposed regions of vascular
; TITLE OF INVENTION: permeability factor bound in-vivo to a tumor associated blood
; TITLE OF INVENTION: vessel
; NUMBER OF SEQUENCES: 31
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: David Prashker, Esq.
; STREET: P.O. Box 5387
; CITY: Magnolia
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 01930

COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOFTWARE: WordPerfect version 5.1
CURRENT APPLICATION DATA: US/08/807,992B
APPLICATION NUMBER: US/08/807,992B
FILING DATE: March 3, 1997
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 147 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear

US-08-807-992B-1

Query Match 80.08; Score: 88; DB 3; Length 147;
Best Local Similarity 80.08; Pred. No. 6.6e-07;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20

Db 37 HHEVVKFMDVYQSYCHPIE 56

Search completed: July 24, 2003, 14:51:31
Job time : 19.0588 secs

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OM protein - protein search, using sw model

Run on: July 24, 2003, 14:47:39 ; Search time 38.8235 Seconds
(without alignments)
61.179 Million cell updates/sec

Title: PEP2

Perfect score: 110

Sequence: 1 HHEVVKFEDVLRSSCHPIE 20

Scoring table: BLOSUM62

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Searched: 451899 seqs, 118759770 residues

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Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

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Published Applications AA:

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- 2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep.*
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- 8: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep.*
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- 11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep.*
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- 18: /cgn2_6/ptodata/2/pubpaa/US10F_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	88	80.0	54	10	US-09-795-006A-81
2	88	80.0	101	11	US-09-832-355A-2
3	88	80.0	105	10	US-09-795-006A-51
4	88	80.0	105	10	US-09-795-006A-59
5	88	80.0	105	10	US-09-795-006A-77
6	88	80.0	105	10	US-09-795-006A-153
7	88	80.0	110	9	US-09-822-270-17
8	88	80.0	110	14	US-10-083-817-11
9	88	80.0	110	15	US-10-268-447-11
10	88	80.0	121	11	US-09-832-355A-1
11	88	80.0	126	10	US-09-795-006A-43
12	88	80.0	126	10	US-09-795-006A-53
13	88	80.0	126	10	US-09-795-006A-55
14	88	80.0	126	10	US-09-795-006A-57
15	88	80.0	126	10	US-09-795-006A-61

16	88	80.0	126	10	US-09-795-006A-63
17	88	80.0	126	10	US-09-795-006A-65
18	88	80.0	128	10	US-09-795-006A-45
19	88	80.0	128	10	US-09-795-006A-67
20	88	80.0	128	10	US-09-795-006A-69
21	88	80.0	128	10	US-09-795-006A-71
22	88	80.0	128	10	US-09-795-006A-73
23	88	80.0	128	10	US-09-795-006A-75
24	88	80.0	128	10	US-09-795-006A-79
25	88	80.0	141	15	US-10-298-794-2
26	88	80.0	145	14	US-10-083-817-2
27	88	80.0	145	15	US-10-268-447-4
28	88	80.0	147	14	US-10-083-817-1
29	88	80.0	147	15	US-10-268-447-2
30	88	80.0	150	11	US-09-832-355A-61
31	88	80.0	154	11	US-09-832-355A-59
32	88	80.0	154	11	US-09-832-355A-62
33	88	80.0	162	11	US-09-832-355A-60
34	88	80.0	165	15	US-10-200-050-3
35	88	80.0	171	9	US-09-812-133-2
36	88	80.0	190	10	US-09-813-398-8
37	88	80.0	191	9	US-09-349-954A-2
38	88	80.0	191	10	US-09-932-451A-2
39	88	80.0	191	10	US-09-907-007-2
40	88	80.0	191	10	US-09-795-006A-2
41	88	80.0	191	10	US-09-870-759-122
42	88	80.0	191	14	US-10-083-817-3
43	88	80.0	191	15	US-10-200-050-2
44	88	80.0	191	15	US-10-201-386-56
45	88	80.0	191	15	US-10-268-447-6

ALIGNMENTS

RESULT 1

US-09-795-006A-81
; Sequence 81, Application US/09795006A
; Patent No. US20020151680A1

GENERAL INFORMATION:
; APPLICANT: Alitalo et al

; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795,006A
; PRIOR FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 81
; LENGTH: 54
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of t

US-09-795-006A-81

Query Match 80.0% ; Score 88; DB 10; Length 54;

Best Local Similarity 80.0% ; Pred. No. 8.3e-07;

Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Oy 1 HHEVVKFEDVLRSSCHPIE 20

Db 4 HHEVVKFMDVQVRSYCHPIE 23

RESULT 2

US-09-832-355A-2

; Sequence 2, Application US/09832355A

; Publication No. US20030027751A1

GENERAL INFORMATION:
APPLICANT: Kovesdi, Imre
TITLE OF INVENTION: VEGF FUSION PROTEINS
FILE REFERENCE: 205654
CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
SOFTWARE: PatentIn version 3.0
SEQ ID NO 2
LENGTH: 101
TYPE: PRT
ORGANISM: Homo sapiens
US-09-832-355A-2

Query Match 80.0%; Score 88; DB 11; Length 101;
Best Local Similarity 80.0%; Pred. No. 1.6e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 HHEVVKFEDVLRSSCHPIE 20
Db 3 HHEVVKFMDVYORSYCHPIE 22

RESULT 3
US-09-795-006A-51
Sequence 51, Application US/09795006A
Patent No. US20020151680A1

GENERAL INFORMATION:
APPLICANT: Alitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 51
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid

Query Match 80.0%; Score 88; DB 10; Length 105;
Best Local Similarity 80.0%; Pred. No. 1.7e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 HHEVVKFEDVLRSSCHPIE 20
Db 4 HHEVVKFMDVYORSYCHPIE 23

RESULT 4
US-09-795-006A-59
Sequence 59, Application US/09795006A
Patent No. US20020151680A1

GENERAL INFORMATION:
APPLICANT: Alitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 153
LENGTH: 105

NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 59
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hyl
US-09-795-006A-59

Query Match 80.0%; Score 88; DB 10; Length 105;
Best Local Similarity 80.0%; Pred. No. 1.7e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 HHEVVKFEDVLRSSCHPIE 20
Db 4 HHEVVKFMDVYORSYCHPIE 23

RESULT 5
US-09-795-006A-77
Sequence 77, Application US/09795006A
Patent No. US20020151680A1

GENERAL INFORMATION:
APPLICANT: Alitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 77
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hy

Query Match 80.0%; Score 88; DB 10; Length 105;
Best Local Similarity 80.0%; Pred. No. 1.7e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 HHEVVKFEDVLRSSCHPIE 20
Db 4 HHEVVKFMDVYORSYCHPIE 23

RESULT 6
US-09-795-006A-153
Sequence 153, Application US/09795006A
Patent No. US20020151680A1

GENERAL INFORMATION:
APPLICANT: Alitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 153
LENGTH: 105

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; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-153

Query Match      80.0%; Score 88; DB 10; Length 105;
Best Local Similarity 80.0%; Pred. No. 1.7e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
Db 4 HHEVVKFMDVYQRSYCHPIE 23

RESULT 7
US-09-822-270-17
; Sequence 17, Application US/09822270
; Patent No. US20020068697A1
; GENERAL INFORMATION:
; APPLICANT: TOURNAIRE, ROSELYNE
; APPLICANT: DEMANGEL, CAROLINE
; APPLICANT: DERBIN, CLAUDE
; APPLICANT: PERRET, GERARD
; APPLICANT: MAZIE, JEAN-CLAUDE
; APPLICANT: PLOUET, JEAN
; APPLICANT: VASSAV, ROGER
; TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MEDIA
; FILE REFERENCE: ANGIOGENESIS, POLYNUCLEOTIDES ENCODING SAID PEPTIDES AND METHODS
; CURRENT FILING DATE: 2001-04-02
; PRIOR FILING DATE: 2001-04-02
; PRIOR APPLICATION NUMBER: US 60/193,396
; PRIOR FILING DATE: 2000-03-31
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 17
; LENGTH: 110
; TYPE: PRT
; ORGANISM: ARTIFICIAL SEQUENCE
; FEATURE:
; OTHER INFORMATION: SYNTHETIC PEPTIDE
US-09-822-270-17

Query Match      80.0%; Score 88; DB 9; Length 110;
Best Local Similarity 80.0%; Pred. No. 1.8e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
Db 11 HHEVVKFMDVYQRSYCHPIE 30

RESULT 8
US-10-083-817-11
; Sequence 11, Application US/10083817
; Publication No. US20020193288A1
; GENERAL INFORMATION:
; APPLICANT: Schreiner, George F.
; APPLICANT: Johnson, Richard J.
; TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
; FILE REFERENCE: COMPOSITIONS FOR USE THEREIN
; CURRENT APPLICATION NUMBER: US/10/083,817
; CURRENT FILING DATE: 2002-02-26
; PRIOR APPLICATION NUMBER: 60/099,694
; PRIOR FILING DATE: 1998-09-09
; PRIOR APPLICATION NUMBER: 09/392,932
; PRIOR FILING DATE: 1999-09-09
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 11
; LENGTH: 110

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; TYPE: PRT
; ORGANISM: Homo Sapien
US-10-083-817-11

Query Match      80.0%; Score 88; DB 14; Length 110;
Best Local Similarity 80.0%; Pred. No. 1.8e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
Db 11 HHEVVKFMDVYQRSYCHPIE 30

RESULT 9
US-10-268-447-11
; Sequence 11, Application US/10268447
; Publication No. US20030096754A1
; GENERAL INFORMATION:
; APPLICANT: N. Stephen Pollitt
; APPLICANT: Judith A. Abraham
; TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR
; FILE REFERENCE: SCIOS.004DVI
; CURRENT APPLICATION NUMBER: US/10/268,447
; CURRENT FILING DATE: 2002-10-10
; PRIOR FILING DATE: 60/135,312
; PRIOR FILING DATE: 1999-05-20
; PRIOR APPLICATION NUMBER: 09/574,708
; PRIOR FILING DATE: 2000-05-18
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 11
; LENGTH: 110
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-268-447-11

Query Match      80.0%; Score 88; DB 15; Length 110;
Best Local Similarity 80.0%; Pred. No. 1.8e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
Db 11 HHEVVKFMDVYQRSYCHPIE 30

RESULT 10
US-09-832-355A-1
; Sequence 1, Application US/09832355A
; Publication No. US20030027751A1
; GENERAL INFORMATION:
; APPLICANT: Kovesdi, Imre
; APPLICANT: Kessler, Paul
; TITLE OF INVENTION: VEGF FUSION PROTEINS
; FILE REFERENCE: 205654
; CURRENT APPLICATION NUMBER: US/09/832,355A
; CURRENT FILING DATE: 2001-04-10
; NUMBER OF SEQ ID NOS: 126
; SOFTWARE: Patent in version 3.0
; SEQ ID NO 1
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-832-355A-1

Query Match      80.0%; Score 88; DB 11; Length 121;
Best Local Similarity 80.0%; Pred. No. 2e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
Db 11 HHEVVKFMDVYQRSYCHPIE 30

```

RESULT 11

US-09-795-006A-43
; Sequence 43, Application US/09795006A
; Patent No. US20020151680A1
; GENERAL INFORMATION:
; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795-006A
; CURRENT FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 43
; LENGTH: 126
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-43

Query Match 80.0%; Score 88; DB 10; Length 126;
Best Local Similarity 80.0%; Pred. No. 2.1e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 HHEVVKFEDVLRSSCHPIE 20
||||||| || :|| |||||
Db 4 HHEVVKFMDVYQRSYCHPIE 23

RESULT 12

US-09-795-006A-53
; Sequence 53, Application US/09795006A
; Patent No. US20020151680A1
; GENERAL INFORMATION:
; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795-006A
; CURRENT FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 53
; LENGTH: 126
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-53

Query Match 80.0%; Score 88; DB 10; Length 126;
Best Local Similarity 80.0%; Pred. No. 2.1e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 HHEVVKFEDVLRSSCHPIE 20
||||||| || :|| |||||
Db 4 HHEVVKFMDVYQRSYCHPIE 23

RESULT 13

US-09-795-006A-55

; Sequence 55, Application US/09795006A
; Patent No. US20020151680A1
; GENERAL INFORMATION:
; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795-006A
; CURRENT FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 55
; LENGTH: 126
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-55

Query Match 80.0%; Score 88; DB 10; Length 126;
Best Local Similarity 80.0%; Pred. No. 2.1e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 HHEVVKFEDVLRSSCHPIE 20
||||||| || :|| |||||
Db 4 HHEVVKFMDVYQRSYCHPIE 23

RESULT 14

US-09-795-006A-57
; Sequence 57, Application US/09795006A
; Patent No. US20020151680A1
; GENERAL INFORMATION:
; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795-006A
; CURRENT FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 57
; LENGTH: 126
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Artificial chimeric amino acid sequence derived from multiple vertebrate vascular endothelial
; OTHER INFORMATION: factors
US-09-795-006A-57

Query Match 80.0%; Score 88; DB 10; Length 126;
Best Local Similarity 80.0%; Pred. No. 2.1e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 HHEVVKFEDVLRSSCHPIE 20
||||||| || :|| |||||
Db 4 HHEVVKFMDVYQRSYCHPIE 23

RESULT 15

US-09-795-006A-61
; Sequence 61, Application US/09795006A
; Patent No. US20020151680A1
; GENERAL INFORMATION:
; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795-006A
; CURRENT FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 61
; LENGTH: 126
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Artificial chimeric amino acid sequence derived from multiple vertebrate vascular endothelial
; OTHER INFORMATION: factors
US-09-795-006A-61

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; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795,006A
; CURRENT FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 61
; LENGTH: 126
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-61

Query Match      80.0%; Score 88; DB 10; Length 126;
Best Local Similarity 80.0%; Pred.No. 2.le-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY      1 HHEVVKFEDVLRSSCHPIE 20
         |||||  ||  ||  |||||
Db       4 HHEVVKENDVYQSYCHPIE 23

Search completed: July 24, 2003, 15:02:51
Job time : 39.8235 secs

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GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 24, 2003, 14:42:56 ; Search time 15.2941 Seconds
(without alignments)
125.759 Million cell updates/sec

Title: PEP2
Perfect score: 110
Sequence: 1 HHEVVKFEDVLRSSCHPIE 20
Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283308 seqs, 96168682 residues

Total number of hits satisfying chosen parameters: 283308

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_76.*
1: pir1.*
2: pir2.*
3: pir3.*
4: pir4.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	88	80.0	232	2 A41551	vascular endotheli
2	72	65.5	120	2 A33787	vascular endotheli
3	72	65.5	190	2 S52130	vascular endotheli
4	72	65.5	190	2 B40080	vascular endotheli
5	72	65.5	190	2 A35987	glioma-derived vas
6	71	64.5	190	2 B44881	vascular endotheli
7	71	64.5	214	2 A44881	vascular endotheli
8	69	62.7	146	2 S57956	ovine vascular end
9	65	59.1	36	2 A60706	vascular endotheli
10	49	44.5	158	2 A56125	placental growth f
11	49	44.5	557	2 T70480	carbamoyl-phosphat
12	48	43.6	1140	2 T41457	dna repair protein
13	47	42.7	651	2 A26581	beta-glucuronidase
14	45	41.8	202	2 F69012	conserved hypothet
15	45	40.9	202	2 T02368	hypothetical prote
16	45	40.9	1075	1 OYRTHX	heat-stable entero
17	44	40.0	149	2 A41236	placental growth f
18	44	40.0	174	2 S58492	auxin-induced prot
19	44	40.0	174	2 S12244	auxin-induced prot
20	44	40.0	174	2 G86289	auxin-induced prot
21	44	40.0	563	2 S77533	DNA mismatch repai
22	44	40.0	760	2 S64023	ALK1 protein - yea
23	43.5	39.5	481	2 T47813	prolyl -L-RNA synth
24	43.5	39.5	481	2 E90203	interleukin-1 rece
25	43	39.5	555	2 J01526	GATA transcription
26	43	39.1	269	2 H85408	GATA-binding trans
27	43	39.1	269	2 T05288	[protein-PII] urid
28	43	39.1	890	2 G64740	protein PII-uridyl
29	43	39.1	890	2 A90650	

30	43	39.1	890	2 A85501	protein PII-uridyl
31	42.5	38.6	229	2 S46696	hypothetical prote
32	42	38.2	21	2 A56901	nerve growth facto
33	42	38.2	152	2 T43088	traj protein homol
34	42	38.2	387	2 T28402	ORF MSV241 leucine
35	42	38.2	412	2 C96789	protein T23818.6 [
36	42	38.2	456	2 E70829	probable membrane
37	42	38.2	512	2 AD1694	2-isopropylmalate
38	42	38.2	528	2 S14944	regulatory protein
39	42	38.2	540	2 T49184	hypothetical prote
40	42	38.2	545	2 B69209	conserved hypothet
41	42	38.2	605	2 T43974	hypothetical prote
42	42	38.2	610	2 T44161	hypothetical prote
43	42	38.2	623	2 T09306	EFRR2 protein - hu
44	41.5	37.7	527	2 T21830	hypothetical prote
45	41	37.3	63	2 A58511	bromocontryphan pr

ALIGNMENTS

RESULT 1

A41551

vascular endothelial growth factor 206 precursor - human

N:Alternate names: vascular permeability factor

N:Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF 189;

C:Species: Homo sapiens (man)

C>Date: 28-Aug-1992 #sequence-revision 28-Aug-1992 #text-change 05-Nov-1999

C:Accession: A41551; C41551; B41551; A40454; B40454; A40079; A40080; JQ146;

R:Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.

Mol. Endocrinol. 5, 1806-1814, 1991

A:Title: The vascular endothelial growth factor family: identification of a fourth

A:Reference number: A41551; MUID:92168017; PMID:1791831

A:Accession: A41551

A:Molecule type: mRNA

A:Residues: 1-232 <H001>

A:Cross-references: GB:S85192; NID:g246155; PID:g246156

A:Accession: C41551

A>Status: nucleic acid sequence not shown

A:Molecule type: mRNA

A:Residues: 1-140, 'N', 183-232 <H002>

A:Accession: B41551

A>Status: nucleic acid sequence not shown; not compared with conceptual translator

A:Molecule type: mRNA

A:Residues: 1-141, 227-232 <H00>

R:Tischer, E.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C

J. Biol. Chem. 265, 11947-11954, 1991

A:Title: The human gene for vascular endothelial growth factor. Multiple protein fa

A:Reference number: A40454; MUID:91268072; PMID:1711045

A:Accession: A40454

A:Molecule type: DNA

A:Residues: 1-165, 183-232 <T11>

A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M6397

A:Accession: B40454

A:Molecule type: DNA

A:Residues: 1-140, 'N', 183-232 <T12>

A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M6397

A:Accession: C40454

A:Molecule type: DNA

A:Residues: 1-141, 227-232 <T13>

A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M6397

R:Keck, P.J.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly,

Science 246, 1309-1312, 1989

A:Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF.

A:Reference number: A40079; MUID:90069609; PMID:2479987

A:Accession: A40079

A>Status: not compared with conceptual translation

A:Molecule type: mRNA

A:Residues: 1-165, 183-232 <KEC>

A:Cross-references: GB:M7281; NID:g340300; PIDN:AAA36807.1; PID:g340301

R:Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.

Science 246, 1306-1309, 1989

A:Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.

A:Reference number: A40080; MUID:90069608; PMID:2479986
 A:Accession: A40080
 A:Status: not compared with conceptual translation
 A:Molecule type: mRNA
 A:Residues: 1-140, 'N', 183-232 <LEU>
 A:Cross-references: GB:M32977; NID:g181970; PIDN:AAA35789.1; PID:g181971
 R:Weindel, K.; Marne, D.; Welch, H.A.
 Biochim. Biophys. Res. Commun. 183, 1167-1174, 1992
 A:Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial
 A:Reference number: JQ1463; MUID:92231879; PMID:1567395
 A:Accession: JQ1463
 A:Molecule type: mRNA
 A:Residues: 1-140, 'N', 183-232 <WEI>
 A:Cross-references: EMBL:X62568; NID:g37658; PIDN:CAA44447.1; PID:g37659
 A:Experimental source: AIDS-Kaposi's sarcoma cell
 A:Accession: JQ1464
 A:Molecule type: mRNA
 A:Residues: 1-140, 'N', 227-232 <WE2>
 A:Experimental source: AIDS-Kaposi's sarcoma cell
 R:Connolly, D.R.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Siegel, N.; Hay
 J. Biol. Chem. 264, 20017-20024, 1989
 A:Title: Human vascular permeability factor. Isolation from U937 cells.
 A:Reference number: A34492; MUID:90062112; PMID:2584205
 A:Accession: A34492
 A:Molecule type: protein
 A:Residues: 27-36; 43-49, 'R', 72-76, 'Q', 78-81; 59-71 <CON>
 C:Comment: The most common of several alternatively spliced forms is VEGF 165.
 C:Genetics:

A:Gene: GDB:VEGF
 A:Cross-references: GDB:132244; OMIM:192240
 A:Map position: 6p21-6p12
 C:Function:

A:Description: promotes fluid and protein leakage from blood vessels
 C:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond
 F:1-232/Product: vascular endothelial growth factor 206 precursor #status predicted <V20
 F:1-165, 183-232/Product: vascular endothelial growth factor 189 precursor #status predicted
 F:1-141, 227-232/Product: vascular endothelial growth factor 121 precursor #status predicted
 F:1-26/Domain: signal sequence #status predicted <SIG>
 F:101/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 80.0%; Score 88; DB 2; Length 232;
 Best Local Similarity 80.0%; Pred. No. 2.9e-06;
 Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 HHEVVKFEDVLRSSCHPIE 20
 ||||| || || |||||
 Db 37 HHEVVKFMDVYQSRCPRIE 56

RESULT 2
 A33787
 vascular endothelial growth factor (version 1) - bovine
 C:Species: Bos primigenius taurus (cattle)
 C:Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
 C:Accession: A33787
 R:Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Crisf
 Biochim. Biophys. Res. Commun. 165, 1198-1206, 1989
 A:Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
 A:Reference number: A33787; MUID:90121225; PMID:2610687
 A:Accession: A33787
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-120 <TIS>
 A:Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
 C:Keywords: alternative splicing

Query Match 65.5%; Score 72; DB 2; Length 120;
 Best Local Similarity 73.7%; Pred. No. 0.0005;
 Matches 14; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Qy 2 HHEVVKFEDVLRSSCHPIE 20
 ||||| || || |||||
 Db 11 HHEVVKFMDVYQSRCPRIE 29

RESULT 3

S52130
 vascular endothelial growth factor - pig
 C:Species: Sus scrofa domestica (domestic pig)
 C:Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
 C:Accession: S52130
 R:Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
 Biochim. Biophys. Acta 1260, 235-238, 1995
 A:Title: Nucleotide sequence and expression of the porcine vascular endothelial growth
 A:Reference number: S52130; MUID:95143284; PMID:7841203
 A:Accession: S52130
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-190 <SHA>
 A:Cross-references: GB:X81380; NID:9587559; PIDN:CAA57143.1; PID:g587560

Query Match 65.5%; Score 72; DB 2; Length 190;
 Best Local Similarity 73.7%; Pred. No. 0.00078;
 Matches 14; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Qy 2 HHEVVKFEDVLRSSCHPIE 20
 ||||| || || |||||
 Db 37 HHEVVKFMDVYQSRCPRIE 55

RESULT 4

B40080
 vascular endothelial growth factor precursor (version 2) - bovine
 C:Species: Bos primigenius taurus (cattle)
 C:Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999
 C:Accession: B40080; B33787; A33255
 R:Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
 Science 246, 1306-1309, 1989
 A:Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
 A:Reference number: A40080; MUID:90069608; PMID:2479986
 A:Accession: B40080
 A:Molecule type: mRNA
 A:Residues: 1-190 <LEU>
 A:Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
 R:Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Cr
 Biochim. Biophys. Res. Commun. 165, 1198-1206, 1989
 A:Title: Vascular endothelial growth factor: a new member of the platelet-derived gr
 A:Reference number: A33787; MUID:90121225; PMID:2610687

A:Accession: B33787
 A:Molecule type: mRNA
 A:Residues: 27-190 <TIS>
 A:Cross-references: GB:M31836; NID:g163808; PIDN:AAA30804.1; PID:g163809
 R:Ferrara, N.; Henzel, W.J.
 Biochim. Biophys. Res. Commun. 161, 851-858, 1989
 A:Title: Pituitary follicular cells secrete a novel heparin-binding growth factor spe
 A:Reference number: A33255; MUID:89286596; PMID:2735925
 A:Accession: A33255
 A:Molecule type: protein
 A:Residues: 27-31 <FER>
 C:Keywords: alternative splicing; glycoprotein
 F:1-26/Domain: signal sequence #status predicted <SIG>
 F:27-190/Product: vascular endothelial growth factor #status predicted <MAT>
 F:100/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 65.5%; Score 72; DB 2; Length 190;
 Best Local Similarity 73.7%; Pred. No. 0.00078;
 Matches 14; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Qy 2 HHEVVKFEDVLRSSCHPIE 20
 ||||| || || |||||
 Db 37 HHEVVKFMDVYQSRCPRIE 55

RESULT 5

A35987
 glioma-derived vascular endothelial cell growth factor - rat

C;Species: Rattus norvegicus (Norway rat)
 C;Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999
 C;Accession: A35987
 R;Conn, G.; Bayne, M.L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K.A.; Palisi, T.M.; Hope,
 Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
 A;Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is h
 A;Reference number: A35987; MUID:90207249; PMID:2320579
 A;Accession: A35987
 A;Status: preliminary
 A;Molecule type: mRNA
 A;Residues: 1-190 <CON>
 A;Cross-references: GB:M32167; NID:g204287; PIDN:AAA41211.1; PID:g204288

Query Match 65.5%; Score 72; DB 2; Length 190;
 Best Local Similarity 73.7%; Pred. No. 0.00078;
 Matches 14; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

OY 2 HEVVKFEDVLRSSCHPIE 20
 ||||| || ||| |||
 DB 37 HEVVKFMDVQYRSCRP 55

RESULT 6
 B44881
 vascular endothelial growth factor-1 precursor - mouse
 C;Species: Mus musculus (house mouse)
 C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
 C;Accession: B44881; A43351; A61029
 R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.
 Development 114, 521-532, 1992
 A;Title: Expression of vascular endothelial growth factor during embryonic angiogenesis
 A;Reference number: A44881; MUID:92274860; PMID:1592003
 A;Accession: B44881
 A;Molecule type: mRNA
 A;Residues: 1-190 <BRE>
 A;Cross-references: GB:S38083; NID:g249858; PIDN:AAB22253.1; PID:g249859
 A;Experimental source: embryo
 A;Note: sequence extracted from NCBI backbone (NCBIN:107622, NCBIP:107623)
 R;Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M.
 J. Biol. Chem. 267, 16317-16322, 1992
 A;Title: Vascular endothelial growth factor. Regulation by cell differentiation and acti
 A;Reference number: A43351; MUID:92355593; PMID:1644816
 A;Accession: A43351
 A;Molecule type: mRNA
 A;Residues: 1-116, 'ER', 119-190 <CLA>
 A;Cross-references: GB:M95200; NID:g202350; PIDN:AAA40547.1; PID:g202351
 A;Note: sequence extracted from NCBI backbone (NCBIN:110665, NCBIP:110675)
 R;Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.; Folkman, J.
 Growth Factors 4, 53-59, 1990
 A;Title: Conditioned medium from mouse sarcoma 180 cells contains vascular endothelial g
 A;Reference number: A61029; MUID:91197543; PMID:2085441
 A;Accession: A61029
 A;Molecule type: protein
 A;Residues: 27-38 <ROS>
 C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; glycoprotein; mit

Query Match 64.5%; Score 71; DB 2; Length 190;
 Best Local Similarity 68.4%; Pred. No. 0.0011;
 Matches 13; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

OY 2 HEVVKFEDVLRSSCHPIE 20
 ||||| || ||| |||
 DB 37 HEVVKFMDVQYRSCRP 55

RESULT 7
 A44881
 vascular endothelial growth factor-3 precursor - mouse
 N;Contains: vascular endothelial growth factor-2; vascular permeability factor
 C;Species: Mus musculus (house mouse)
 C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 08-Oct-1999
 C;Accession: A44881; A44881; A60932; S52136
 R;Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.

Development 114, 521-532, 1992
 A;Title: Expression of vascular endothelial growth factor during embryonic angiogen
 A;Reference number: A44881; MUID:92274860; PMID:1592003
 A;Accession: A44881
 A;Molecule type: mRNA
 A;Residues: 1-214 <BRE>
 A;Cross-references: GB:S37052; NID:g249856; PIDN:AAB22252.1; PID:g249857
 A;Experimental source: embryo
 A;Note: sequence extracted from NCBI backbone (NCBIN:104677, NCBIP:104678)
 A;Accession: C44881
 A;Molecule type: mRNA
 A;Residues: 1-140,209-214 <BR2>
 A;Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1; PID:g249861
 A;Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBIP:107625)
 R;Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; Familletti, P.C.; Pan,
 J. Exp. Med. 172, 1535-1545, 1990
 A;Title: Vascular permeability factor: a tumor-derived polypeptide that induces en
 A;Reference number: A60932; MUID:91079755; PMID:2258694
 A;Accession: A60932
 A;Molecule type: protein
 A;Residues: 27-33 <CLA>
 R;Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Madhwa, R.
 Biochim. Biophys. Acta 1224, 365-370, 1994
 A;Title: Enhanced expression of multiple forms of VEGF is associated with spontanec
 A;Reference number: S52136; MUID:95101726; PMID:7803491
 A;Accession: S52136
 A;Status: preliminary
 A;Molecule type: protein
 A;Residues: 27-46 <SUG>
 C;Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3.
 C;Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homoc
 F;1-26/Domain: signal sequence #status predicted <SIG>
 F;27-214/Product: vascular endothelial growth factor-3 #status experimental <MAT>

Query Match 64.5%; Score 71; DB 2; Length 214;
 Best Local Similarity 68.4%; Pred. No. 0.0013;
 Matches 13; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

OY 2 HEVVKFEDVLRSSCHPIE 20
 ||||| || ||| |||
 DB 37 HEVVKFMDVQYRSCRP 55

RESULT 8
 S57956
 ovine vascular endothelial growth factor - sheep
 C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
 C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text_change 05-Nov-1999
 C;Accession: S57956
 R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M.
 submitted to the EMBL Data Library, July 1995
 A;Reference number: S57956
 A;Accession: S57956
 A;Status: preliminary
 A;Molecule type: mRNA
 A;Residues: 1-146 <RED>
 A;Cross-references: EMBL:X89506; NID:g899350; PIDN:CAA61677.1; PID:g899351

Query Match 62.7%; Score 69; DB 2; Length 146;
 Best Local Similarity 68.4%; Pred. No. 0.0018;
 Matches 13; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

OY 2 HEVVKFEDVLRSSCHPIE 20
 ||||| || ||| |||
 DB 37 HEVVKFMDVQYRSCRP 55

RESULT 9
 A60706
 vascular endothelial growth factor - guinea pig (fragment)
 N;Alternate names: vascular permeability factor
 C;Species: Cavia porcellus (guinea pig)
 C;Date: 14-May-1993 #sequence_revision 14-May-1993 #text_change 17-Mar-1999

A:Reference number: A36538; MUID:91090114; PMID:1702266
 A:Accession: A36538
 A:Molecule type: mRNA
 A:Residues: 378-385,616-621,643-651 <TOM>
 C:Genetics:

A:Gene: GDB:GUSB
 A:Cross-references: GDB:120025; OMIM:253220
 A:Map position: 7q22-7q22
 C:Superfamily: beta-glucuronidase
 C:Keywords: glycoprotein; glycosidase; homotrimer; hydrolase; lysosome
 F1-22/Domain: signal sequence #status predicted <SIG>
 F23-651/Product: beta-glucuronidase, placental #status predicted <MAT>

Query Match 42.7%; Score 47; DB 2; Length 651;
 Best Local Similarity 44.4%; Pred. No. 21;
 Matches 8; Conservative 3; Mismatches 7; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHP 18
 || : ||: || ||
 Db 424 HHMQVMEVRRDKNHP 441

RESULT 14
 F69012
 conserved hypothetical protein MTH1096 Methanobacterium thermoautotrophicum (strain De
 C:Species: Methanobacterium thermoautotrophicum
 C>Date: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 22-Oct-1999
 C:Accession: F69012
 R:Smith, D.R.; Doucette-Stamm, L.A.; Deloughery, C.; Lee, H.; Dubois, J.; Aldredge, T.;
 Qiu, D.; Spadafora, R.; Vicaire, R.; Wang, Y.; Wierzbowski, J.; Gibson, R.; Jiwan, N.
 ki, S.; Church, G.M.; Daniels, C.J.; Mao, J.; Rice, P.; Noelling, J.; Reeve, J.N.
 J. Bacteriol. 179, 7135-7155, 1997
 A:Title: Complete genome sequence of Methanobacterium thermoautotrophicum Delta H: funct
 A:Reference number: A69000; MUID:98037514; PMID:9371463
 A:Accession: F69012
 A>Status: preliminary; nucleic acid sequence not shown; translation not shown
 A:Molecule type: DNA
 A:Residues: 1-202 <MTH>
 A:Cross-references: GB:AE000880; GB:AE000666; NID:92622192; PIDN:AAB85585.1; PID:g262219
 A:Experimental source: strain Delta H
 C:Genetics:
 A:Gene: MTH1096
 A:Start codon: TTG

Query Match 41.8%; Score 46; DB 2; Length 202;
 Best Local Similarity 66.7%; Pred. No. 9.8;
 Matches 8; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 6 KFEDVLRSSCH 17
 || ||: || ||
 Db 14 KFDLLREISCH 25

RESULT 15
 T02368
 hypothetical protein T8F5.23 - Arabidopsis thaliana
 C:Species: Arabidopsis thaliana (mouse-ear cress)
 C>Date: 05-Mar-1999 #sequence_revision 05-Mar-1999 #text_change 22-Oct-1999
 C:Accession: T02368
 R:Vysotskaia, V.S.; Schwartz, J.R.; Toriumi, M.; Yu, G.; Kwan, A.; Liu, S.; Li, J.; Arau
 Li, Y.; Palm, C.J.; Shinn, P.; Sun, H.; Davis, R.W.; Ecker, J.R.; Federspiel, N.A.; Theo
 submitted to the EMBL Data Library, July 1998
 A:Description: Arabidopsis thaliana chromosome 1 BAC T8F5 complete sequence.
 A:Reference number: 214666
 A:Accession: T02368
 A>Status: translated from GB/EMBL/DBJ
 A:Molecule type: DNA
 A:Residues: 1-450 <VYS>
 A:Cross-references: EMBL:AC004512; NID:933335331; PID:g33335350; GSPDB:GN00059; ATSP:T8F5.
 C:Genetics:
 A:Gene: ATSP:T8F5.23
 A:Map position: 1
 A:Introns: 154/3

Query Match 40.9%; Score 45; DB 2; Length 450;
 Best Local Similarity 77.8%; Pred. No. 30;
 Matches 7; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 HHEVVKFED 9
 ||: ||: ||: ||
 Db 218 HHLEVKFQD 226

Search completed: July 24, 2003, 14:50:50
 Job time : 17.2941 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 24, 2003, 14:08:59 ; Search time 15.2941 Seconds
(without alignments)
61.496 Million cell updates/sec

Title: PEP2

Perfect score: 110

Sequence: 1 HHEVVKFEDVLRSSCHPIE 20

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 127863 seqs, 47026705 residues

Total number of hits satisfying chosen parameters: 127863

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_41.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	88	80.0	232	1 VEGA_HUMAN	P15692 homo sapien
2	73	66.4	190	1 VEGA_MESAU	Q99ps1 mesocricetu
3	72	65.5	190	1 VEGA_BOVIN	P15691 bos taurus
4	72	65.5	190	1 VEGA_HORSE	Q9gk0 equus caball
5	72	65.5	190	1 VEGA_PIG	P49151 sus scrofa
6	72	65.5	214	1 VEGA_CANFA	Q9myv3 canis famill
7	72	65.5	214	1 VEGA_RAT	P16612 rattus norv
8	71	64.5	214	1 VEGA_MOUSE	Q00731 mus musculus
9	69	62.7	146	1 VEGA_SHEEP	P50412 ovis aries
10	59	53.6	164	1 VEGA_CAVPO	P26617 cavia porce
11	52	47.3	149	1 PLGF_BOVIN	Q9x847 bos taurus
12	50	45.5	216	1 VEGA_CHICK	P52582 gallus gall
13	49	44.5	158	1 PLGF_MOUSE	P49784 mus musculus
14	49	44.5	158	1 PLGF_RAT	Q63434 rattus norv
15	49	44.5	557	1 CAB1_AQUAE	Q67869 aquifex aeo
16	48	43.6	160	1 NIEF_RHISN	P55675 rhizobium s
17	48	43.6	1140	1 RA18_SCHPO	P53692 schizosacch
18	47.5	43.2	304	1 NAAL_METAC	Q8ts46 methanosarc
19	47	42.7	651	1 BGLR_HUMAN	P08236 homo sapien
20	45.5	41.4	304	1 NADA_METMA	Q8pv98 methanosarc
21	45	40.9	222	1 TRPE_XANCP	Q8pj26 xanthomonas
22	45	40.9	222	1 TRPE_XANCP	Q8pj26 xanthomonas
23	45	40.9	1072	1 HSER_RAT	P23897 rattus norv
24	44	40.0	174	1 AXIS_ARATH	P33078 arabidopsis
25	44	40.0	221	1 PLGF_HUMAN	P49763 homo sapien
26	44	40.0	556	1 MUTL_SYNY3	P73349 synecocyst
27	44	40.0	760	1 ALK1_YEAST	P43633 saccharomyc
28	43	39.1	890	1 GLND_ECO57	Q8x8y6 escherichia
29	43	39.1	890	1 GLND_ECOL6	Q8cy19 escherichia
30	43	39.1	890	1 GLND_ECOL1	P27249 escherichia
31	42.5	38.6	229	1 CG18_YEAST	P38794 saccharomyc
32	42.5	38.6	793	1 REGA_DICDI	Q23917 dictyosteli
33	42	38.2	512	1 LEUL_LISIN	Q92a28 listeria in

34	42	38.2	528	1 UGA3_YEAST	P26370 saccharomyc
35	42	38.2	541	1 CH60_ANAPH	Q34191 anaplasma p
36	41	37.3	63	1 COW1_CONPU	P58784 conus purpu
37	41	37.3	63	1 COW_CONFA	P58786 conus radia
38	41	37.3	139	1 DEF_THETN	Q8r9c0 thermoaer
39	41	37.3	292	1 CC22_ORYSA	P29619 oryza sativ
40	41	37.3	293	1 SPEE_YEAST	Q12074 saccharomyc
41	41	37.3	620	1 YMZQ_YEAST	Q03162 saccharomyc
42	41	37.3	725	1 SPEL_DIACA	Q96412 dianthus ca
43	41	37.3	1371	1 VCAP_HVSA	Q00959 herpesvirus
44	41	37.3	1427	1 SRB8_YEAST	P25648 saccharomyc
45	40.5	36.8	346	1 ILVC_BUCUE	Q9aq97 buchnera ap

ALIGNMENTS

RESULT 1					
VEGA_HUMAN					
ID	VEGA_HUMAN	STANDARD	PRT	232 AA	
AC	P15692	O60720; O75875; Q16889; Q96NW5; Q9H1W9; Q9UH58;			
AC	Q9UL23				
DT	01-APR-1990	(Rel. 14, Created)			
DT	28-FEB-2003	(Rel. 41, Last sequence update)			
DT	15-SEP-2003	(Rel. 42, Last annotation update)			
DE	Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).				
DE	permeability factor) (VPF).				
GN	VEGF OR VEGFA.				
OS	Homo sapiens (Human).				
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;				
OC	Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.				
OX	NCBI_TaxID=9606;				
RN	[1]				
RN	SEQUENCE FROM N.A. (ISOFORMS VEGF189 AND VEGF165).				
RP	MEDLINE=90069608; PubMed=2479986;				
RA	Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara N.;				
RT	"Vascular endothelial growth factor is a secreted angiogenic mitogen.";				
RL	Science 246:1306-1309(1989).				
RN	[2]				
RP	SEQUENCE FROM N.A. (ISOFORM VEGF189), AND PARTIAL SEQUENCE.				
RP	MEDLINE=90069609; PubMed=2479987;				
RA	Keck P.J., Hauser S.D., Krivi G., Sanzo K., Warren T., Feder J., Connolly D.T.;				
RT	"Vascular permeability factor, an endothelial cell mitogen related to PDGF.";				
RL	Science 246:1309-1312(1989).				
RN	[3]				
RP	SEQUENCE FROM N.A. (ISOFORM VEGF189).				
RP	MEDLINE=91268072; PubMed=1711045;				
RA	Tischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D., Fiddes J.C., Abraham J.A.;				
RT	"The human gene for vascular endothelial growth factor. Multiple protein forms are encoded through alternative exon splicing.";				
RL	J. Biol. Chem. 266:11947-11954(1991).				
RN	[4]				
RP	SEQUENCE FROM N.A. (ISOFORM VEGF206).				
RP	MEDLINE=92168017; PubMed=1791831;				
RA	Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W.;				
RT	"The vascular endothelial growth factor family: identification of a fourth molecular species and characterization of alternative splicing of RNA.";				
RL	Mol. Endocrinol. 5:1806-1814(1991).				
RN	[5]				
RP	SEQUENCE FROM N.A. (ISOFORM VEGF165).				
RP	MEDLINE=92231879; PubMed=1567395;				
RA	Weindel K., Marne D., Weich H.A.;				
RT	"AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial-growth factor.";				
RL	Biochem. Biophys. Res. Commun. 183:1167-1174(1992).				
RN	[6]				
RP	SEQUENCE FROM N.A. (ISOFORM VEGF145).				
RP	MEDLINE=97207275; PubMed=9054410;				

RA Poltorak Z., Cohen T., Sivan R., Kandelis Y., Spira G., Vlodavsky I.,
 RA Keshet E., Neufeld G.;
 RT "VEGF145, a secreted vascular endothelial growth factor isoform that
 RT binds to extracellular matrix.";
 RL J. Biol. Chem. 272:7151-7158(1997).
 RN [7]
 RN SEQUENCE FROM N.A. (ISOFORM VEGF183).
 RC TISSUE=Kidney;
 RA MEDLINE=99096474; PubMed=9878851;
 RA Lei J., Jiang A., Pei D.;
 RT "Identification and characterization of a new splicing variant of
 RT vascular endothelial growth factor: VEGF183.";
 RL Biochim. Biophys. Acta 1443:400-406(1998).
 RN [8]
 RN SEQUENCE FROM N.A. (ISOFORM VEGF165).
 RC TISSUE=Breast;
 RA MEDLINE=98119755; PubMed=9450968;
 RA Claffey K.P., Shih S.-C., Mullen A., Dziennis S., Cusick J.L.,
 RA Abrams K.R., Lee S.W., Detmar M.;
 RT "Identification of a human VPF/VEGF 3' untranslated region mediating
 RT hypoxia-induced mRNA stability.";
 RL Mol. Biol. Cell 9:469-481(1998).
 RN [9]
 RN SEQUENCE OF 114-209 FROM N.A. (ISOFORM VEGF183).
 RC TISSUE=Retina;
 RA MEDLINE=99165303; PubMed=10067980;
 RA Jingjing L., Xue Y., Agarwal N., Roque R.S.;
 RT "Human Muller cells express VEGF183, a novel spliced variant of
 RT vascular endothelial growth factor.";
 RL Invest. Ophthalmol. Vis. Sci. 40:752-759(1999).
 RN [10]
 RN SEQUENCE FROM N.A. (ISOFORM VEGF165).
 RC TISSUE=Hemangioidendoloma;
 RA Murata H., Fukushima J., Hattori S., Okuda K., Yanagi H.;
 RT "Human cDNA for the vascular endothelial growth factor isoform
 RT VEGF165.";
 RL Submitted (DEC-1998) to the EMBL/GenBank/DBJ databases.
 RN [11]
 RN SEQUENCE FROM N.A. (ISOFORM VEGF148).
 RC TISSUE=Renal glomerulus;
 RA MEDLINE=99394945; PubMed=10464055;
 RA Whittle C.J., Gillespie K.M., Harrison R., Mathieson P.W.,
 RA Harper S.J.;
 RT "Heterogeneous vascular endothelial growth factor (VEGF) isoform mRNA
 RT and receptor mRNA expression in human glomeruli, and the
 RT identification of VEGF148 mRNA, a novel truncated splice variant.";
 RL Clin. Sci. 97:303-312(1999).
 RN [12]
 RN SEQUENCE FROM N.A. (ISOFORM VEGF121).
 RA Sato J.D., Whitney R.G.;
 RT "Human cDNA for vascular endothelial growth factor isoform VEGF121.";
 RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
 RN [13]
 RN SEQUENCE FROM N.A.
 RA Williams S.;
 RL Submitted (DEC-2000) to the EMBL/GenBank/DBJ databases.
 RN [14]
 RN SEQUENCE OF 23-232 FROM N.A. (VEGF165).
 RA Rieder M.J., Arnel T.Z., Carrington D.P., Chung M.-W., Lee K.L.,
 RA Poel C.L., Toth E.J., Yi Q., Nickerson D.A.;
 RL Submitted (Oct-2001) to the EMBL/GenBank/DBJ databases.
 RN [15]
 RN PRELIMINARY SEQUENCE OF 27-36; 43-50 AND 59-81.
 RA MEDLINE=90062112; PubMed=2584205;
 RA Connolly D.T., Olander J.V., Heuvelman D., Nelson R., Monsell R.,
 RA Siegel N., Haymore B.L., Leingruber R., Feder J.;
 RT "Human vascular permeability factor: Isolation from U937 cells.";
 RL J. Biol. Chem. 264:20017-20024(1989).
 RN [16]
 RN SEQUENCE OF 27-41.
 RA MEDLINE=93145946; PubMed=7678805;
 RA Fiebig B.L., Jaeger B., Schoellmann C., Weindel K., Wiltling J.,
 RA Kochs G., Marne D., Hug H., Weich H.A.;

RT "Synthesis and assembly of functionally active human vascular
 RT endothelial growth factor homodimers in insect cells.";
 RL Eur. J. Biochem. 211:19-26(1993).
 RN [17]
 RN X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 34-135.
 RX MEDLINE=97352774; PubMed=9207067;
 RA Muller Y.A., Li B., Christinger H.W., Wells J.A., Cunningham B.C.,
 RA de Vos A.M.;
 RT "Vascular endothelial growth factor: crystal structure and functional
 RT mapping of the kinase domain receptor binding site.";
 RL Proc. Natl. Acad. Sci. U.S.A. 94:7192-7197(1997).
 RN [18]
 RN X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135.
 RX MEDLINE=98035455; PubMed=9351807;
 RA Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.;
 RT "The crystal structure of vascular endothelial growth factor (VEGF)
 RT refined to 1.93-A resolution: multiple copy flexibility and receptor
 RT binding.";
 RL Structure 5:1325-1338(1997).
 RN [19]
 RN X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134.
 RX MEDLINE=99119204; PubMed=9922142;
 RA Wiesmann C., Christinger H.W., Cochran A.G., Cunningham B.C.,
 RA Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.;
 RT "Crystal structure of the complex between VEGF and a receptor-blocking
 RT peptide.";
 RL Biochemistry 37:17765-17772(1998).
 RN [20]
 RN STRUCTURE BY NMR OF 34-135.
 RX MEDLINE=97477915; PubMed=9336848;
 RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
 RA Starovasnik M.A.;
 RT "1H, 13C, and 15N backbone assignment and secondary structure of the
 RT receptor-binding domain of vascular endothelial growth factor.";
 RL Protein Sci. 6:2250-2260(1997).
 RN [21]
 RN STRUCTURE BY NMR OF 137-215.
 RX MEDLINE=98298440; PubMed=9634701;
 RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
 RA Starovasnik M.A.;
 RT "Solution structure of the heparin-binding domain of vascular
 RT endothelial growth factor.";
 RL Structure 6:637-648(1998).
 RN [22]
 RN FUNCTION.
 RX MEDLINE=21320570; PubMed=11427521;
 RA Murphy J.F., Fitzgerald D.J.;
 RT "Vascular endothelial growth factor induces cyclooxygenase-dependent
 RT proliferation of endothelial cells via the VEGF-2 receptor.";
 RL FASEB J. 15:1667-1669(2001).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin. Neuropilin-1 binds isoforms VEGF-165 and VEGF-145.
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PLGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: VEGF121 is acidic and freely secreted.
 CC VEGF165 is more basic, has heparin-binding properties and,
 CC although a significant proportion remains cell-associated, most is
 CC freely secreted. VEGF189 is very basic; it is cell-associated
 CC after secretion and is bound avidly by heparin and the
 CC extracellular matrix, although it may be released as a soluble
 CC form by heparin, heparinase or plasmin.
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=7;
 CC Comment=Experimental confirmation may be lacking for some
 CC isoforms:
 CC Name=VEGF206;
 CC IsoId=PI5692-1; Sequence=Displayed;
 CC Name=VEGF189;
 CC IsoId=PI5692-2; Sequence=VSP_004622;

Query Match 66.4%; Score 73; DB 1; Length 190;
 Best Local Similarity 73.7%; Pred. No. 0.00014;
 Matches 14; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

RESULT 3

VEGA_BOVIN STANDARD; PRT: 190 AA.

ID ID VEGA_BOVIN STANDARD; PRT: 190 AA.
AC PL5691;
DT 01-APR-1990 (Rel. 14, Created)
DT 01-APR-1990 (Rel. 14, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
DE DE VEGF OR VEGFA.
GS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 27-47.
RX MEDLINE=90069608; PubMed=2479986;
RA Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara N.;
RT "Vascular endothelial growth factor is a secreted angiogenic mitogen."
RL Science 246:1306-1309(1989).
RN [2]
RP SEQUENCE OF 27-190--FROM N.A. (ISOFORMS ALPHA AND BETA).
RX MEDLINE=90121225; PubMed=2610687;
RA Tischer E., Gospodarowicz D., Mitchell R.R., Silva M., Schilling J.,
RA Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
RT "Vascular endothelial growth factor: a new member of the platelet-derived growth factor gene family".
RL Biochem. Biophys. Res. Commun. 165:1198-1206(1989).
RN [3]
RP SEQUENCE OF 27-31.
RX MEDLINE=89286596; PubMed=2735925;
RA Ferrara N., Henzel W.J.;
RT "Pituitary follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells.";
RL Biochem. Biophys. Res. Commun. 161:851-858(1989).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (by similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
CC -1- ALTERNATIVE PRODUCTS:
CC Event-Alternative splicing; Named isoforms=2;
CC Name=Alpha;
CC IsoId=PL5691-1; Sequence=Displayed;
CC Name=Beta;
CC IsoId=PL5691-2; Sequence=VSP_004613, VSP_004614;
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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CC EMBL; M32976; AAA30502.1; .
 CC EMBL; M31836; AAA30804.1; .
 CC EMBL; M33750; AAA30805.1; .
 CC PIR; B40080; B40080.
 CC HSSP; P15692; 1VGH.
 CC InterPro; IPR000072; PD_growth_factor.
 CC Pfam; PF00341; PDGF; 1.
 CC ProDom; PD001629; PD_growth_factor; 1.
 CC SMART; SM00141; PDGF; 1.
 CC PROSITE; PS00249; PDGF_1; 1.
 CC PROSITE; PS00278; PDGF_2; 1.
 CC Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 CC Heparin-binding; Alternative splicing; Multigene family.
 FT SIGNAL 1 26
 FT CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 100 100 N-LINKED (GLCNAC. .) (POTENTIAL).
 FT VARSPLIC 139 183 Missing (in isoform Beta).
 FT VARSPLIC 184 184 /FTID-VSP_004613.
 FT R -> K (in isoform Beta).
 FT /FTID-VSP_004614.
 FT SEQUENCE 190 AA; 22310 MW; EDBF903E46E24789 CRC64;
 Query Match 65.5%; Score 72; DB 1; Length 190;
 Best Local Similarity 73.7%; Pred. No. 0.0002;
 Matches 14; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

OY 2 HEVVKFEDVLRSSCHPIE 20
 ||||| | : || | |||
 DB 37 HEVVKFMDVYQSFRCPIE 55

RESULT 4
 ID VEGA_HORSE STANDARD; PRT; 190 AA.
 AC Q9GAR0.
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 DE VEGF OR VEGFA.
 GN Equus caballus (Horse).
 OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
 OX NCBI_TaxID=9796;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Miura N., Misumi K., Kawahara K., Nakashima M., Fukumitsu S., Kawabata H., Uto T., Oka T., Maruyama I., Sakamoto H.;
 RT "Cloning of cDNA and high-level expression of equine vascular endothelial growth factor (VEGF)."
 RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth. Induces endothelial proliferation, and vascular permeability (By similarity).
 CC -!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with pLGF (By similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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CC EMBL; AB053350; BAB20890.1;
 CC HSSP; P15692; 1VGH.
 CC InterPro; IPR000072; PD_growth_factor.
 CC Pfam; PF00341; PDGF; 1.
 CC ProDom; PD001629; PD_growth_factor; 1.
 CC SMART; SM00141; PDGF; 1.
 CC PROSITE; PS00249; PDGF_1; 1.
 CC PROSITE; PS00278; PDGF_2; 1.
 CC Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 CC Multigene family.
 FT SIGNAL 1 26
 FT CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 100 100 N-LINKED (GLCNAC. .) (POTENTIAL).
 FT SEQUENCE 190 AA; 22312 MW; 87E9E161439E8F87 CRC64;
 Query Match 65.5%; Score 72; DB 1; Length 190;
 Best Local Similarity 73.7%; Pred. No. 0.0002;
 Matches 14; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

OY 2 HEVVKFEDVLRSSCHPIE 20
 ||||| | : || | |||
 DB 37 HEVVKFMDVYQSFRCPIE 55

RESULT 5
 ID VEGA_PIG STANDARD; PRT; 190 AA.
 AC P49151; Q9GLS2;
 DT 01-FEB-1996 (Rel. 33, Created)
 DT 01-FEB-1996 (Rel. 33, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 DE VEGF OR VEGFA.
 GN Sus scrofa (Pig).
 OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
 OX NCBI_TaxID=9823;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Heart;
 RX MEDLINE=95143284; PubMed=7841203;
 RA Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.;
 RT "Nucleotide sequence and expression of the porcine vascular endothelial growth factor."
 RL Biochim. Biophys. Acta 1260:235-238(1995).
 RN [2]
 RP SEQUENCE FROM N.A.
 RA Lee T., Canty J.M.;
 RT "PCR cloning of porcine cardiac vascular endothelial growth factor gene."
 RL Submitted (NOV-2000) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
 CC -!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with pLGF (By similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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CC      or send an email to license@isb-sib.ch).
CC      -----
CC      EMBL; X81380; CAA57143.1;
CC      EMBL; AF318502; AAG33064.1;
CC      PIR; S52130; S52130.
CC      HSSP; P15692; IVGH.
CC      InterPro: IPR000072; PD_growth_factor.
CC      Pfam; PF00341; PDGF; 1.
CC      ProDom; PD001629; PD_growth_factor; 1.
CC      SMART; SM00141; PDGF; 1.
CC      PROSITE; PS00249; PDGF_1; 1.
CC      PROSITE; PS0278; PDGF_2; 1.
CC      KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
CC      Heparin-binding; Multigene family.
CC      FT SIGNAL 1 26
CC      FT CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
CC      FT DISULFID 51 93
CC      FT DISULFID 82 127
CC      FT DISULFID 86 129
CC      FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
CC      FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
CC      FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL).
CC      FT CONFLICT 102 102 T -> A (IN REF. 2).
CC      SQ SEQUENCE 190 AA; 23368 MW; 04D40B8D7913047F CRC64;

Query Match 65.5%; Score 72; DB 1; Length 190;
Best Local Similarity 73.7%; Pred. No. 0.0002;
Matches 14; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

OY 2 HEVVKFEDVLRSSCHPIE 20
Db 37 HEVVKFMDVQYRSYCRPIE 55

RESULT 6
VEGA_CANFA STANDARD; PRT; 214 AA.
AC Q9MYV3; Q9XSF4; Q9XSF5;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Canis familiaris (Dog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX NCBI_TaxID=9615;
RN [1]
RP MEDLINE=20125516; PubMed=10661874;
RX Scheidegger P., Weiglhofer W., Suarez S., Kaser-Hotz B., Steiner R.,
RA Ballmer-Hofer K., Jausssi R.;
RT "Vascular endothelial growth factor (VEGF) and its receptors in tumor-
RT bearing dogs."
RL Biol. Chem. 380:1449-1454(1999).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORMS VEGF-188; VEGF-182 AND VEGF-164).
RC TISSUE=Heart;
RA Jingjing L., Roque R.S.;
RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
CC -! FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and

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CC      heparin (By similarity).
CC      -! SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC      with PLGF (By similarity).
CC      -! SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC      to the extracellular matrix unless released by heparin (By
CC      similarity).
CC      -! ALTERNATIVE PRODUCTS:
CC      Event=Alternative splicing; Named isoforms=3;
CC      Name=VEGF-188;
CC      IsoId=Q9MYV3-1; Sequence=Displayed;
CC      Name=VEGF-182;
CC      IsoId=Q9MYV3-2; Sequence=VSP_004617;
CC      Name=VEGF-164;
CC      IsoId=Q9MYV3-3; Sequence=VSP_004615, VSP_004616;
CC      -! SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC      -----
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CC      -----
CC      EMBL; AJ133758; CAB82426.1;
CC      EMBL; AF133250; AAD29684.1;
CC      EMBL; AF133249; AAD29683.1;
CC      EMBL; AF133248; AAD29682.1;
CC      HSSP; P15692; IVGH.
CC      InterPro: IPR000072; PD_growth_factor.
CC      Pfam; PF00341; PDGF; 1.
CC      ProDom; PD001629; PD_growth_factor; 1.
CC      SMART; SM00141; PDGF; 1.
CC      PROSITE; PS00249; PDGF_1; 1.
CC      PROSITE; PS0278; PDGF_2; 1.
CC      KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
CC      Heparin-binding; Alternative
CC      SIGNAL 1 26
CC      FT CHAIN 27 214 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
CC      FT DISULFID 51 93
CC      FT DISULFID 82 127
CC      FT DISULFID 86 129
CC      FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
CC      FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
CC      FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL).
CC      FT VARSPLIC 140 140
CC      FT VARSPLIC 141 164 Missing (in isoform VEGF-164).
CC      FT VARSPLIC 159 164 Missing (in isoform VEGF-182).
CC      FT CONFLICT 143 143 I -> V (IN REF. 2).
CC      FT CONFLICT 161 161 P -> S (IN REF. 2).
CC      SQ SEQUENCE 214 AA; 25175 MW; 0AC980A158C44B27 CRC64;

Query Match 65.5%; Score 72; DB 1; Length 214;
Best Local Similarity 73.7%; Pred. No. 0.0002;
Matches 14; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

OY 2 HEVVKFEDVLRSSCHPIE 20
Db 37 HEVVKFMDVQYRSYCRPIE 55

RESULT 7
VEGA_RAT STANDARD; PRT; 214 AA.
AC P16612; Q5JKX7; Q9XG6; Q9XG7;
DT 01-AUG-1990 (Rel. 15, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular

```


DE permeability factor) (VPF).
 OS VEGF OR VEGFA.
 GN Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF-A164); AND SEQUENCE OF 27-190.
 RX MEDLINE=90207249; PubMed=2320579;
 RA Conn G., Bayne M.L., Soderman D.D., Kwok P.W., Sullivan K.A.,
 RA Palisi T.M., Hope D.A., Thomas K.A.;
 RT "Amino acid and cDNA sequences of a vascular endothelial cell mitogen
 RT that is homologous to platelet-derived growth factor.";
 RT Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
 RN [2]
 RP SEQUENCE FROM N.A. (ISOFORMS VEGF-A188; VEGF-A164; VEGF-A144 AND
 RP VEGF-A120).
 RA Ishii H., Arakawa T., Okayama M., Oota I., Takuma T., Inomata K.;
 RT "Developmental expression of vascular endothelial growth factor-A
 RT (VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in rat
 RT mesenteric muscle.";
 RT Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
 RN [3]
 RP SEQUENCE OF 27-40.
 RC TISSUE-Glial tumor;
 RX MEDLINE=95221439; PubMed=7706320;
 RA Disalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G.,
 RA Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.;
 RT "Purification and characterization of a naturally occurring vascular
 RT endothelial growth factor/placenta growth factor heterodimer.";
 RT J. Biol. Chem. 270:7717-7723(1995).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PLGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely secreted.
 CC VEGF-A164 is more basic, has heparin-binding properties and,
 CC although a significant proportion remains cell-associated, most is
 CC freely secreted. VEGF-A188 is very basic; it is cell-associated
 CC after secretion and is bound avidly by heparin and the
 CC extracellular matrix, although it may be released as a soluble
 CC form by heparin, heparinase or plasmin (By similarity).
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event-Alternative splicing; Named isoforms=4;
 CC Comment=Additional isoforms seem to exist;
 CC Name=VEGF-A188;
 CC IsoId=PI6612-1; Sequence=Displayed;
 CC Name=VEGF-A164;
 CC IsoId=PI6612-2; Sequence=VSP_004629, VSP_004630;
 CC Name=VEGF-A144;
 CC IsoId=PI6612-3; Sequence=VSP_004632;
 CC Name=VEGF-A120;
 CC IsoId=PI6612-4; Sequence=VSP_004631;
 CC -1- TISSUE SPECIFICITY: Expressed in the pituitary, in brain, in
 CC particularly in suprapubic and paraventricular nuclei and the
 CC choroid plexus. Also found abundantly in the corpus luteum of the
 CC ovary and in kidney glomeruli.
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC
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 CC
 CC EMBL; M32167; AAA41211.1;
 CC EMBL; AF215725; AAF19211.1; -

DR EMBL; AF215726; AAF19212.1; -
 DR EMBL; AF222779; AAF25958.1; -
 DR HSSP; P15692; IVPF.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 KW Heparin-binding; Alternative splicing; Multigene family.
 FT SIGNAL 1 26 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT CHAIN 27 214 BY SIMILARITY.
 FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 76 75 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 100 100 N-LINKED (GLCNAC...).
 FT VARSPPLIC 140 140 K'-> N (in isoform VEGF-A164).
 FT FTID=VSP_004629.
 FT VARSPPLIC 141 164 Missing (in isoform VEGF-A164).
 FT FTID=VSP_004630.
 FT VARSPPLIC 141 208 Missing (in isoform VEGF-A120).
 FT FTID=VSP_004631.
 FT VARSPPLIC 165 208 Missing (in isoform VEGF-A144).
 FT FTID=VSP_004632.
 FT CONFLICT 101 101 V-> A (IN REF. 2: AAF19212).
 SQ SEQUENCE 214 AA; 25239 MW; 60FBB876F5304946 CRC64;
 Query Match 65.5%; Score 72; DB 1; Length 214;
 Best Local Similarity 73.7%; Pred. No. 0.00023;
 Matches 14; Conservative 1; Mismatches 4; Indels 0; Caps 0;
 QY 2 HEVVKEDVLRSSCHPIE 20
 Db 37 HEVVKFMDVYORSYCRPIE 55
 RESULT 8
 VEGA_MOUSE
 ID VEGA_MOUSE STANDARD; PRT; 214 AA.
 AC Q00731;
 DT 01-APR-1993 (Rel. 25, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
 DE permeability factor) (VPF).
 GN VEGF OR VEGFA.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A. (ISOFORMS VEGF-1; VEGF-2 AND VEGF-3).
 RX MEDLINE=92274860; PubMed=1592003;
 RA Breier G., Albrrecht U., Sterrer S., Risau W.;
 RT "Expression of vascular endothelial growth factor during embryonic
 RT angiogenesis and endothelial cell differentiation.";
 RT Development 114:521-532(1992).
 RN [2]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF-1).
 RX MEDLINE=92355593; PubMed=1644816;
 RA Claffey K.P., Wilkison W.O., Spiegelman B.M.;
 RT "Vascular endothelial growth factor. Regulation by cell
 RT differentiation and activated second messenger pathways.";
 RL J. Biol. Chem. 267:16317-16322(1992).
 RN [3]
 RP SEQUENCE OF 1-3 FROM N.A.
 RX MEDLINE=96216498; PubMed=8632007;
 RA Shima D.T., Kuroki M., Deutsch U., Ng Y., Adamis A.P., D'Amore P.A.;
 RT "The mouse gene for vascular endothelial growth factor. Genomic
 RT structure, definition of the transcriptional unit, and

Matches 13; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

Qy 2 HEVVKFEDVLRSSCHPIE 20
 III:II II :II I III
 Db 37 HEVVKFMDVYQSRCPDIE 55

RESULT 10
 ID VEGA_CAVPO STANDARD; PRT; 164 AA.
 AC P26617;
 DT 01-AUG-1992 (Rel. 23, Created)
 DT 01-AUG-1992 (Rel. 23, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A (VEGF-A) (Vascular permeability factor) (VPF).
 DE VEGF OR VEGFA.
 GN Cavia porcellus (Guinea pig).
 OS Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Hystriognathi; Caviidae; Cavia.
 OX NCBI_TaxID=10141;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=BILE duct;
 RA Berse B.;

RL Submitted (JAN-1992) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth. Induces endothelial proliferation and vascular permeability (By similarity).
 CC -!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PLGF (By similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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 CC
 CC EMBL; M84230; AAA37057.1;
 DR HSP; P15692; 1VGH.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 DR Mitogen; Angiogenesis; Growth factor; Glycoprotein.
 KW Disulfid 25 67
 FT DISULFID 56 101 BY SIMILARITY.
 FT DISULFID 60 103 BY SIMILARITY.
 FT DISULFID 50 50 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 59 59 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 74 74 N-LINKED (GLCNAC...) (POTENTIAL).
 SQ SEQUENCE 164 AA; 19330 MW; 9EB86A81A9D5DCA4 CRC64;

Query Match 53.68; Score 59; DB 1; Length 164;
 Best Local Similarity 66.78; Pred. No. 0.021;
 Matches 12; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 3 EVVKFEDVLRSSCHPIE 20
 I III II :II I III
 Db 12 EVVKFMDVYKSRCPDIE 29

RESULT 11
 ID PLGF_BOVIN STANDARD; PRT; 149 AA.

AC O9XS47;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Placenta growth factor precursor (PlGF).
 DE PGF OR PLGF.
 GN Bos taurus (Bovine).
 OS Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OX NCBI_TaxID=9913;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Heart;
 RA Liu X., Yonekura H., Yamagishi S., Yamamoto Y., Yamamoto H.;
 RT "Structure and expression of bovine VEGF family."
 RT Submitted (MAY-1997) to the EMBL/GenBank/DBJ databases.

CC -!- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth, stimulating their proliferation and migration. It binds to receptor VEGFR-1/PLT1 (By similarity).
 CC -!- SUBUNIT: Antiparallel homodimer; disulfide-linked. Also found as heterodimer with VEGF/VEGF-A (By similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted (By similarity).
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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 CC
 CC EMBL; AB004272; BAA77684.1;
 DR HSP; P49763; 1FZV.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 DR Angiogenesis; Mitogen; Growth factor; Glycoprotein; Signal.

FT CHAIN 1 18
 FT CHAIN 19 149
 FT DISULFID 52 94 BY SIMILARITY.
 FT DISULFID 83 128 BY SIMILARITY.
 FT DISULFID 87 130 BY SIMILARITY.
 FT DISULFID 77 77 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 86 86 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 33 33 N-LINKED (GLCNAC...) (POTENTIAL).
 SQ SEQUENCE 149 AA; 17094 MW; 1F8E83B8C745EFE0 CRC64;

Query Match 47.38; Score 52; DB 1; Length 149;
 Best Local Similarity 55.68; Pred. No. 0.25;
 Matches 10; Conservative 2; Mismatches 6; Indels 0; Gaps 0;

Qy 3 EVVKFEDVLRSSCHPIE 20
 III I :II I I I
 Db 39 EVVKFQVWSRSCRPVE 56

RESULT 12
 ID VEGA_CHICK STANDARD; PRT; 216 AA.
 AC P52582; Q91420;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 15-JUL-1998 (Rel. 36, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 DE VEGF OR VEGFA.
 GN Gallus gallus (Chicken), and

OS Coturnix coturnix japonica (Japanese quail).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauia; Aves; Neognathae; Galliformes; Phasianinae;
 OC Gallus.
 OC NCBI_TaxID=9031, 93934;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC SPECIES=Chicken; TISSUE=Heart;
 RA Takahashi T.;
 RT "Chick embryonic ventricular myocytes VEGF.";
 RL Submitted (FEB-1998) to the EMBL/GenBank/DBJ databases.
 RN [2]
 RP SEQUENCE FROM N.A. (ISOFORMS VEGF-190; VEGF-166 AND VEGF-146).
 RC SPECIES=C.c.japonica; TISSUE=Embryo;
 RX MEDLINE=96005007; PubMed=7556923;
 RA Flamme I., von Reutern M., Drexler H.C., Syed-Ali S., Risau W.;
 RT "Overexpression of vascular endothelial growth factor in the avian
 embryo induces hypervascularization, and increased vascular
 permeability without alterations of embryonic pattern formation.";
 RL Dev. Biol. 171:399-414(1995).
 RN [3]
 RP SEQUENCE OF 60-187 FROM N.A. (ISOFORMS VEGF-190 AND VEGF-166).
 RC SPECIES=C.c.japonica;
 RX MEDLINE=95301109; PubMed=7781909;
 RA Flamme I., Breier G., Risau W.;
 RT "Vascular endothelial growth factor (VEGF) and VEGF receptor 2
 (flk-1) are expressed during vasculogenesis and vascular
 differentiation in the quail embryo.";
 RL Dev. Biol. 169:699-712(1995).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 endothelial cell growth. It induces endothelial cell
 proliferation, promotes cell migration, inhibits apoptosis, and
 induces permeabilization of blood vessels. It binds to the
 VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 heparin (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 with PlGF (By similarity).
 CC -1- ALTERNATIVE PRODUCTS:
 CC Comment-Additional isoforms seem to exist;
 CC Name=VEGF-190;
 CC IsoId=P52582-1; Sequence=Displayed;
 CC Name=VEGF-166;
 CC IsoId=P52582-2; Sequence=VSP_004633, VSP_004634;
 CC Note=Has been shown to exist only in quail so far;
 CC Name=VEGF-146;
 CC IsoId=P52582-3; Sequence=VSP_004635, VSP_004636;
 CC Note=Has been shown to exist only in quail so far;
 CC -1- TISSUE SPECIFICITY: Abundantly and equally expressed in heart and
 liver. In kidney glomeruli, brain and yolk sac, VEGF-166 is 5- to
 10-times more abundant than VEGF-190.
 CC -1- DEVELOPMENTAL STAGE: VEGF-166 is expressed early at day 1 and is
 upregulated during gastrulation. Expression of VEGF-190 is detectable
 only from day 2.
 CC -1- DOMAIN: VEGF-190 contains a basic insert which acts as a cell
 retention signal.
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC
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 CC
 CC EMBL; AB011078; BAA24925.1;
 CC EMBL; S79680; AAB35371.1;
 CC HSP; P15692; IUGH
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam: PF00341; PDGF; 1.
 DR ProDom: PD001629; PD_growth_factor; 1.
 DR SMART: SM00141; PDGF; 1.

DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 KW Heparin-binding; Alternative splicing; Multigene family.
 OC NCBI_TaxID=9031, 93934;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC SPECIES=Chicken; TISSUE=Heart;
 RA Takahashi T.;
 RT "Chick embryonic ventricular myocytes VEGF.";
 RL Submitted (FEB-1998) to the EMBL/GenBank/DBJ databases.
 RN [2]
 RP SEQUENCE FROM N.A. (ISOFORMS VEGF-190; VEGF-166 AND VEGF-146).
 RC SPECIES=C.c.japonica; TISSUE=Embryo;
 RX MEDLINE=96005007; PubMed=7556923;
 RA Flamme I., von Reutern M., Drexler H.C., Syed-Ali S., Risau W.;
 RT "Overexpression of vascular endothelial growth factor in the avian
 embryo induces hypervascularization, and increased vascular
 permeability without alterations of embryonic pattern formation.";
 RL Dev. Biol. 171:399-414(1995).
 RN [3]
 RP SEQUENCE OF 60-187 FROM N.A. (ISOFORMS VEGF-190 AND VEGF-166).
 RC SPECIES=C.c.japonica;
 RX MEDLINE=95301109; PubMed=7781909;
 RA Flamme I., Breier G., Risau W.;
 RT "Vascular endothelial growth factor (VEGF) and VEGF receptor 2
 (flk-1) are expressed during vasculogenesis and vascular
 differentiation in the quail embryo.";
 RL Dev. Biol. 169:699-712(1995).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 endothelial cell growth. It induces endothelial cell
 proliferation, promotes cell migration, inhibits apoptosis, and
 induces permeabilization of blood vessels. It binds to the
 VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 heparin (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 with PlGF (By similarity).
 CC -1- ALTERNATIVE PRODUCTS:
 CC Comment-Additional isoforms seem to exist;
 CC Name=VEGF-190;
 CC IsoId=P52582-1; Sequence=Displayed;
 CC Name=VEGF-166;
 CC IsoId=P52582-2; Sequence=VSP_004633, VSP_004634;
 CC Note=Has been shown to exist only in quail so far;
 CC Name=VEGF-146;
 CC IsoId=P52582-3; Sequence=VSP_004635, VSP_004636;
 CC Note=Has been shown to exist only in quail so far;
 CC -1- TISSUE SPECIFICITY: Abundantly and equally expressed in heart and
 liver. In kidney glomeruli, brain and yolk sac, VEGF-166 is 5- to
 10-times more abundant than VEGF-190.
 CC -1- DEVELOPMENTAL STAGE: VEGF-166 is expressed early at day 1 and is
 upregulated during gastrulation. Expression of VEGF-190 is detectable
 only from day 2.
 CC -1- DOMAIN: VEGF-190 contains a basic insert which acts as a cell
 retention signal.
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC
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 or send an email to license@isb-sib.ch).
 CC
 CC EMBL; AB011078; BAA24925.1;
 CC EMBL; S79680; AAB35371.1;
 CC HSP; P15692; IUGH
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam: PF00341; PDGF; 1.
 DR ProDom: PD001629; PD_growth_factor; 1.
 DR SMART: SM00141; PDGF; 1.

Query Match 45.5%; Score 50; DB 1; Length 216;
 Best Local Similarity 52.6%; Pred. No. 0.77;
 Matches 10; Conservative 3; Mismatches 6; Indels 0; Gaps 0;

QY 2 HEVVKEDVLRSSCHPIE 20

DB 38 NEVVKLEVERSFRTIE 56

RESULT 13

PLGF_MOUSE

ID PLGF_MOUSE STANDARD; PRT; 158 AA.

AC P49764;

DT 01-OCT-1996 (Rel. 34, Created)

DT 01-OCT-1996 (Rel. 34, Last sequence update)

DT 28-FEB-2003 (Rel. 41, Last annotation update)

DE Placenta growth factor precursor (PLGF).

GN PGF OR PLGF.

OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

OC NCBI_TaxID=10090;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Heart;

RX MEDLINE=97059399; PubMed=8903720;

RA Dipalma T., Tucci M., Russo G., Maglione D., Lago C.T., Romano A.,

RA Saccoccia S., della Valle G., de Gregorio L., Dragani T.A.,

RA Viglietto G., Persico M.G.;

RT "the placenta growth factor gene of the mouse.";

RL Mamm. Genome 7:6-12(1996).

RN [2]

RP SEQUENCE FROM N.A.

RC STRAIN=NIH Swiss;

RX MEDLINE=98065381; PubMed=9401819;

RA Achen M.G., Gad J.M., Stacker S.A., Wilks A.F.;

RT "Placenta growth factor and vascular endothelial growth factor are

co-expressed during early embryonic development.";

RL Growth factors 15:69-80(1997).

CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial

cell growth, stimulating their proliferation and migration. It

binds to receptor VEGFR-1/Flt1 (By similarity).

CC -1- SUBUNIT: Antiparallel homodimer; disulfide-linked. Also found as

heterodimer with VEGF/VEGF-A (By similarity).

CC -1- SUBCELLULAR LOCATION: Secreted (By similarity).

CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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DR EMBL; X80171; CAA56453.1; -
 DR EMBL; X96793; CAA65587.1; -
 DR HSSP; P49763; 1F2V.
 DR MGD; MGI:105095; Pgf.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 KW Angiogenesis; Mitogen; Growth factor; Glycoprotein; Signal.
 FT SIGNAL 1 18
 FT CHAIN 19 158
 FT DISULFID 48 90
 FT DISULFID 79 125
 FT DISULFID 83 127
 FT DISULFID 73 73
 FT DISULFID 82 82
 FT CARBOHYD 29 29
 FT CARBOHYD 30 30
 FT CARBOHYD 97 97
 SQ SEQUENCE 158 AA; F16128BEA0790438 CRC64;

Query Match 44.5%; Score 49; DB 1; Length 158;
 Best Local Similarity 55.6%; Pred. No. 0.8;
 Matches 10; Conservative 2; Mismatches 6; Indels 0; Gaps 0;

OY 3 EVKPFEDVLRSSCHPIE 20
 DB 35 EVVPEVNGRSGCRPME 52

RESULT 14
 ID PLGF_RAT STANDARD; PRT; 158 AA.
 AC Q63434;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Placenta growth factor precursor (PlGF).
 GN PLGF.

OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10116;
 RN [1]

SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
 RA MEDLINE=95221439; PubMed=7706320;
 RA DiSalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G.,
 RA Suderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.;
 RT "Purification and characterization of a naturally occurring vascular
 RT endothelial growth factor/placenta growth factor heterodimer.";
 RL J. Biol. Chem. 270:7171-7173 (1995).
 CC -!- FUNCTION: Growth factor active in angiogenesis, and endothelial
 CC cell growth, stimulating their proliferation and migration. It
 CC binds to receptor VEGFR-1/Flr1 (By similarity).
 CC -!- SUBUNIT: Antiparallel homodimer; disulfide-linked. Also found as
 CC heterodimer with VEGF/VEGF-A.
 CC -!- SUBCELLULAR LOCATION: Secreted (By similarity).
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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DR EMBL; L40030; AAA97426.1; -
 DR PIR; A56125; A56125.
 DR HSSP; P49763; 1F2V.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 KW Angiogenesis; Mitogen; Growth factor; Glycoprotein; Signal.
 FT SIGNAL 1 23
 FT CHAIN 24 158
 FT DISULFID 48 90
 FT DISULFID 79 125
 FT DISULFID 83 127
 FT DISULFID 73 73
 FT DISULFID 82 82
 FT CARBOHYD 29 29
 FT CARBOHYD 30 30
 FT CARBOHYD 97 97
 SQ SEQUENCE 158 AA; B4771373A82E15B9 CRC64;

Query Match 44.5%; Score 49; DB 1; Length 158;
 Best Local Similarity 55.6%; Pred. No. 0.8;
 Matches 10; Conservative 2; Mismatches 6; Indels 0; Gaps 0;

OY 3 EVKPFEDVLRSSCHPIE 20
 DB 35 EVVPEVNGRSGCRPME 52

RESULT 15
 ID CABL_AQUAE STANDARD; PRT; 557 AA.
 AC Q67869;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Carbamoyl-phosphate synthase large chain, N-terminal section
 DE (EC 6.3.5.5) (Carbamoyl-phosphate synthetase ammonia chain).
 GN CABL OR AQ_2101.

OS Aquifex aeolicus.
 OC Bacteria; Aquificae; Aquificales; Aquificaceae; Aquifex.
 OX NCBI_TaxID=63363;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=VF5;
 RX MEDLINE=98196666; PubMed=9537320;
 RA Deckert G., Warren P.V., Gaasterland T., Young W.G., Lenox A.L.,
 RA Graham D.E., Overbeek R., Sneed M.A., Keller M., Aubay M., Huber R.,
 RA Feldman R.A., Short J.M., Olson G.J., Swanson R.V.;
 RT "The complete genome of the hyperthermophilic bacterium Aquifex
 RT aeolicus.";
 RL Nature 392:353-358 (1998).

CC -!- CATALYTIC ACTIVITY: 2 ATP + L-glutamine + CO(2) + H(2)O -> 2 ADP +
 CC phosphate + L-glutamate + carbamoyl phosphate.
 CC -!- COFACTOR: Binds 3 manganese ions per subunit (By similarity).
 CC -!- PATHWAY: Arginine biosynthesis.
 CC -!- PATHWAY: Pyrimidine biosynthesis; first step.
 CC -!- SUBUNIT: Composed of two chains; the small (or glutamine) chain
 CC promotes the hydrolysis of glutamine to ammonia, which is used by
 CC the large (or ammonia) chain to synthesize carbamoyl phosphate (By
 CC similarity).
 CC -!- SIMILARITY: BELONGS TO THE CARB FAMILY. N-TERMINAL SECTION.
 CC -!- CAUTION: Sequence of carb is split into two genes in A.aeolicus
 CC (AQ_1172 and AQ_2101).

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CC -----
 DR EMBL; AF000772; AAC07826.1;
 DR PIR; A70480; A70480.
 DR HSSP; P00968; LJDB.
 DR HAMAP; MF_01210; atypical; 1.
 DR InterPro; IPR005483; CPase_L.
 DR InterPro; IPR005479; CPase_L_D2.
 DR InterPro; IPR005480; CPase_L_D3.
 DR InterPro; IPR005481; CPase_L_N.
 DR Pfam; PF00289; CPase_L_chain; 1.
 DR Pfam; PF02786; CPase_L_D2; 1.
 DR Pfam; PF02787; CPase_L_D3; 1.
 DR PRINTS; PR00098; CPASE.
 DR PROSITE; PS00866; CPASE_1; 1.
 DR PROSITE; PS00867; CPASE_2; 1.
 KW Arginine biosynthesis; Pyrimidine biosynthesis; Ligase; ATP-binding;
 Manganese; Complete proteome.
 FT DOMAIN 1 402 CARBOXYPHOSPHATE SYNTHETIC DOMAIN.
 FT DOMAIN 403 543 OLIGOMERIZATION DOMAIN.
 FT NP_BIND 153 210 ATP (POTENTIAL).
 FT NP_BIND 303 353 ATP (POTENTIAL).
 FT METAL 285 285 MANGANESE 1 (BY SIMILARITY).
 FT METAL 299 299 MANGANESE 1 AND 2 (BY SIMILARITY).
 FT METAL 301 301 MANGANESE 2 (BY SIMILARITY).
 SQ SEQUENCE 557 AA; 62404 MW; 89C259FDC0170A37 CRC64;

Query Match 44.5%; Score 49; DB 1; Length 557;
 Best Local Similarity 56.2%; Pred. No. 3;
 Matches 9; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

QY 3 EVVKFEDVLRSSCHP 18
 |:||||:|
 Db 465 EIVKFEVLKKEELTP 480

Search completed: July 24, 2003, 14:46:17
 Job time : 16.2941 secs

Result No.	Query			DB	ID	Description
	Match	Length	Score			
1	88	80.0	126	6	Q9BDP7	Q9BDP7 macaca mula
2	88	80.0	191	4	Q96KJ0	Q96KJ0 homo sapien
3	88	80.0	191	4	Q96L82	Q96L82 homo sapien
4	88	80.0	191	6	Q95NE5	Q95NE5 macaca fasc
5	85	77.3	190	11	Q9QX39	Q9QX39 spalax leuc
6	72	65.5	110	11	Q88911	Q88911 rattus norv
7	72	65.5	124	6	Q8SP29	Q8SP29 sus scrofa
8	72	65.5	184	6	Q8HW70	Q8HW70 mustela vis
9	72	65.5	189	6	Q95LQ4	Q95LQ4 felis silve
10	72	65.5	190	11	Q91ZE1	Q91ZE1 rattus norv
11	71	64.5	141	11	O70123	O70123 mus musculu
12	69	62.7	118	6	Q9MZB1	Q9MZB1 ovis aries
13	69	62.7	190	6	O77643	O77643 ovis aries
14	64	58.2	128	6	Q8SP15	Q8SP15 equus cabal
15	63	57.3	124	6	Q9GK00	Q9GK00 callithrix
16	49.5	45.0	294	10	O81BU5	O81BU5 arabidopsis

ALIGNMENTS

QY 1 HHEVVKFEDVLRSSCHPIE 20
30 HHEVVKFMDVYQRSYCHPIE 49
db

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RESULT 2
Q96KJ0          PRELIMINARY;      PRT; 191 AA.
ID Q96KJ0;
AC Q96KJ0;
DT 01-DEC-2001 (TEMBLrel. 19, Created)
DT 01-DEC-2001 (TEMBLrel. 19, Last sequence update)
DT 01-MAR-2003 (TEMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor 165b.
OS Homo sapiens (human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1];
RP SEQUENCE FROM N.A.
RC TISSUE=Kidney;
RA Sugiono M., Winkler M., Gillatt D., Harper S.J., Bates D.O.;
RT "A new isoform of vascular endothelial growth factor mRNA is down-
regulated in renal tumors.";
RL (In) Unknown A. (eds.);
RL Proceedings of the 7th World Congress on Microcirculation, pp.3-3,
RL Sydney, Australia (2001).
RL EMBL; AF430806; AAL27435.1;
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR ProSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 191 AA; 22258 MW; D25243E540AC79BD CRC64;

Query Match 80.0%; Score 88; DB 4; Length 191;
Best Local Similarity 80.0%; Pred. No. 2.5e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
   ||||| || :|| |||||
Db 37 HHEVVKFMDVYQRSYCHPIE 56

RESULT 3
Q96L82          PRELIMINARY;      PRT; 191 AA.
ID Q96L82;
AC Q96L82;
DT 01-DEC-2001 (TEMBLrel. 19, Created)
DT 01-DEC-2001 (TEMBLrel. 19, Last sequence update)
DT 01-OCT-2002 (TEMBLrel. 22, Last annotation update)
DE Vascular endothelial growth factor.
GN VEGF.
OS Homo sapiens (human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1];
RP SEQUENCE FROM N.A.
RA Liu J., Peng X., Yuan J., Qiang B.;
RT "Cloning of vascular endothelial growth factor (VEGF) cDNA.";
RL Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases.
RL EMBL; AY047581; AAK95847.1;
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 80.0%; Score 88; DB 4; Length 191;
Best Local Similarity 80.0%; Pred. No. 2.5e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
   ||||| || :|| |||||
Db 37 HHEVVKFMDVYQRSYCHPIE 56

RESULT 4
Q95NE5          PRELIMINARY;      PRT; 191 AA.
ID Q95NE5;
AC Q95NE5;
DT 01-DEC-2001 (TEMBLrel. 19, Created)
DT 01-DEC-2001 (TEMBLrel. 19, Last sequence update)
DT 01-OCT-2002 (TEMBLrel. 22, Last annotation update)
DE SIMVEGF165.
GN SIMVEGF165.
OC Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheidae;
OC Cercopitheidae; Macaca.
OX NCBI_TaxID=9541;
RN [1];
RP SEQUENCE FROM N.A.
RX MEDLINE=96245208; PubMed=8641836;
RA Shima D.T.; Gougos A.; Miller J.W., Tolentino M., Robinson G.;
RA Adamis A.P.; D'Amore P.A.;
RT "Cloning and mRNA expression of vascular endothelial growth factor in
ischemic retinas of Macaca fascicularis.";
RL Invest. Ophthalmol. Vis. Sci. 37:1334-1340(1996).
RL EMBL; S82167; AAB47118.1;
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 80.0%; Score 88; DB 6; Length 191;
Best Local Similarity 80.0%; Pred. No. 2.5e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 HHEVVKFEDVLRSSCHPIE 20
   ||||| || :|| |||||
Db 37 HHEVVKFMDVYQRSYCHPIE 56

RESULT 5
Q9QX39          PRELIMINARY;      PRT; 190 AA.
ID Q9QX39;
AC Q9QX39;
DT 01-MAY-2000 (TEMBLrel. 13, Created)
DT 01-MAY-2000 (TEMBLrel. 13, Last sequence update)
DT 01-MAR-2003 (TEMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor.
GN VEGF.
OS Spalax leucodon ehrenbergi (Ehrenberg's mole rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
OC Nannospalax.
OX NCBI_TaxID=30637;
RN [1];
RP SEQUENCE FROM N.A.
RX MEDLINE=99313148; PubMed=10386577;
RA Avivi A., Resnick M.B., Nevo E., Joel A., Levy A.P.;
RT "Adaptive hypoxic tolerance in the subterranean mole rat Spalax
ehrenbergi: the role of vascular endothelial growth factor.";
RL FEBS Lett. 452:133-140(1999).
RL EMBL; AF186236; AAD56245.1;
DR HSP; P49763; 1F2V.
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 190 AA; 22488 MW; 2228383BC65F0BFE CRC64;

Query Match 77.3%; Score 85; DB 11; Length 190;
Best Local Similarity 84.2%; Pred. No. 7.0e-06;

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Matches 16; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 2 HEVVKFEDVLRSSCHPIE 20
DB 37 HEVVKFMDVYQSYCRPIE 55

RESULT 6

ID O88911 PRELIMINARY; PRT; 110 AA.
AC O88911;
DT 01-NOV-1998 (TREMBLrel. 08, Created)
DT 01-NOV-1998 (TREMBLrel. 08, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor A 110 (Fragment)
GN VEGF
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-Sprague-Dawley; TISSUE=Penis;
RX MEDLINE=99115228; PubMed=9916007;
RA Burchardt M., Burchardt T., Chen M.W., Shabsigh A., de la Taille A.,
Buttvan R., Shabsigh R.;
RT "Expression of messenger ribonucleic acid splice variants for vascular
endothelial growth factor in the penis of adult rats and humans";
RL Biol. Reprod. 60:398-404(1999).
RL EMBL; AF080594; AAC36708.1;
DR HSSP; P49763; 1FZV.
DR InterPro: IPR002400; GF_cysknot.
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam: PF00341; PDGF_1.
DR PRINTS; PR00438; GFCYSKNOT.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS0278; PDGF_2; 1.
FT NON_TER 1
SQ SEQUENCE 110 AA; 12713 MW; B81B79AC08D89F06 CRC64;

Query Match 65.5%; Score 72; DB 11; Length 110;
Best Local Similarity 73.7%; Pred. No. 0.00057;
Matches 14; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

QY 2 HEVVKFEDVLRSSCHPIE 20
DB 11 HEVVKFMDVYQSYCRPIE 29

RESULT 7

ID Q8SP29 PRELIMINARY; PRT; 124 AA.
AC Q8SP29;
DT 01-JUN-2002 (TREMBLrel. 21, Created)
DT 01-JUN-2002 (TREMBLrel. 21, Last sequence update)
DT 01-OCT-2002 (TREMBLrel. 22, Last annotation update)
DE Vascular endothelial growth factor (Fragment).
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX NCBI_TaxID=9823;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Myocardium.
RA Yuan H., Li J.;
RT "The expression of VEGF in porcine collateral-dependent myocardial by
exercise training";
RL Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
DR EMBL; AF461807; AAL85286.1;
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.

DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS0278; PDGF_2; 1.
FT NON_TER 124
SQ SEQUENCE 124 AA; 14552 MW; 2E1C1A009E67C9C9 CRC64;

Query Match 65.5%; Score 72; DB 6; Length 124;
Best Local Similarity 73.7%; Pred. No. 0.00064;
Matches 14; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

QY 2 HEVVKFEDVLRSSCHPIE 20
DB 9 HEVVKFMDVYQSYCRPIE 27

RESULT 8

ID Q8HY70 PRELIMINARY; PRT; 184 AA.
AC Q8HY70;
DT 01-MAR-2003 (TREMBLrel. 23, Created)
DT 01-MAR-2003 (TREMBLrel. 23, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor A (Fragment).
OS Mustela vison (American mink).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Mustelidae; Mustelinae;
OC Mustela.
OX NCBI_TaxID=9667;
RN [1]
RP SEQUENCE FROM N.A.
RA Lopes F.L., Demarais J.A., Gevry N.Y., Ledoux S., Murphy B.D.;
RT "Expression of VEGF isoforms and receptors during implantation in
Mustela vison";
RL Submitted (OCT-2002) to the EMBL/GenBank/DDBJ databases.
DR EMBL; AV158156; AAN76365.1;
DR NON_TER 184
FT NON_TER 184
SQ SEQUENCE 184 AA; 21608 MW; BAD47CC80C146F22 CRC64;

Query Match 65.5%; Score 72; DB 6; Length 184;
Best Local Similarity 73.7%; Pred. No. 0.00094;
Matches 14; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

QY 2 HEVVKFEDVLRSSCHPIE 20
DB 37 HEVVKFMDVYQSYCRPIE 55

RESULT 9

ID Q95LQ4 PRELIMINARY; PRT; 189 AA.
AC Q95LQ4;
DT 01-DEC-2001 (TREMBLrel. 19, Created)
DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor.
OS Felis silvestris catus (Cat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
OX NCBI_TaxID=9685;
RN [1]
RP SEQUENCE FROM N.A.
RA Koga L., Kobayashi Y., Yazawa M., Masuda K., Ohno K., Tsujimoto H.;
RT "Nucleotide sequence and expression of the feline vascular endothelial
growth factor";
RL Submitted (SEP-2001) to the EMBL/GenBank/DDBJ databases.
DR EMBL; AB071947; BAB68520.1;
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS0278; PDGF_2; 1.

```

SQ SEQUENCE 189 AA; 22193 MW; C1E4646759AB3FD6 CRC64;
  Query Match 65.5%; Score 72; DB 6; Length 189;
  Best Local Similarity 73.7%; Pred. No. 0.00096;
  Matches 14; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

OY 2 HEVVFEDVLRSSCHPIE 20
Db 37 HEVVFMDVYQSRCPPIE 55

RESULT 10
OY12E1 PRELIMINARY; PRT; 190 AA.
AC OY12E1;
DT 01-DEC-2001 (TREMBlrel. 19, Created)
DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE Vascular endothelial growth factor.
GN VEGF.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1];
RP SEQUENCE FROM N.A.
RC STRAIN-Sprague-Dawley;
RA Marion S.; Lee T.-C.;
RT "Cloning of multiple VEGF splice variants from hypoxic neonatal rat cardiomyocytes."
RL Submitted (APR-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY033506; AAL07526.1;
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam: PF00341; PDGF_1;
DR ProDom: PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1;
DR PROSITE; PS00249; PDGF_1;
DR PROSITE; PS0278; PDGF_2; 1.
SQ SEQUENCE 190 AA; 22396 MW; 589374010441F377 CRC64;

Query Match 65.5%; Score 72; DB 11; Length 190;
Best Local Similarity 73.7%; Pred. No. 0.00097;
Matches 14; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

OY 2 HEVVFEDVLRSSCHPIE 20
Db 37 HEVVFMDVYQSRCPPIE 55

RESULT 11
OY12E1 PRELIMINARY; PRT; 141 AA.
AC OY12E1;
DT 01-AUG-1998 (TREMBlrel. 07, Created)
DT 01-AUG-1998 (TREMBlrel. 07, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE VEGF115.
GN VEGFA OR VEGF.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1];
RP SEQUENCE FROM N.A.
RC STRAIN-ICR;
RA Sugihara T.; Kaul S.C.; Mitsui Y.; Wadhwa R.;
RT "Enhanced expression of multiple forms of VEGF is associated with spontaneous immortalization of murine fibroblasts."
RL Biochim. Biophys. Acta 1224:365-370(1994).
RN [2];
RP SEQUENCE FROM N.A.
RC STRAIN-ICR;

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RX MEDLINE=98112857; PubMed=9446618;
RA Sugihara T.; Wadhwa R.; Kaul S.C.; Mitsui Y.;
RT "A novel alternatively spliced form of murine vascular endothelial growth factor, VEGF 115."
RL J. Biol. Chem. 273:3033-3038(1998).
DR EMBL; U50279; AAC05442.1;
DR HSSP; P49763; 1FZV.
DR MGD; MGI:103178; Vegfa.
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1;
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1;
DR PROSITE; PS00249; PDGF_1;
DR PROSITE; PS0278; PDGF_2; 1.
SQ SEQUENCE 141 AA; 15550 MW; A27C4EF5A7071338 CRC64;

Query Match 64.5%; Score 71; DB 11; Length 141;
Best Local Similarity 68.4%; Pred. No. 0.0011;
Matches 13; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

OY 2 HEVVFEDVLRSSCHPIE 20
Db 37 HEVVFMDVYQSRCPPIE 55

RESULT 12
OY12E1 PRELIMINARY; PRT; 118 AA.
AC OY12E1;
DT 01-OCT-2000 (TREMBlrel. 15, Created)
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE Vascular endothelial growth factor (Fragment).
GN VEGF.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1];
RP SEQUENCE FROM N.A.
RC TISSUE=Placental artery endothelium;
RA Zheng J.; Tsoi S.C.; Magnus R.R.;
RT "Growth factor expression in ovine fetal placental artery endothelial cells."
RL Submitted (MAR-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF250375; AAF75258.1;
DR HSSP; P49763; 1FZV.
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1;
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1;
DR PROSITE; PS00249; PDGF_1;
DR PROSITE; PS0278; PDGF_2; 1.
FT NON_TER 1;
SQ SEQUENCE 118 AA; 13931 MW; 757DC53AA56378A6 CRC64;

Query Match 62.7%; Score 69; DB 6; Length 118;
Best Local Similarity 68.4%; Pred. No. 0.0019;
Matches 13; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

OY 2 HEVVFEDVLRSSCHPIE 20
Db 9 HEVVFMDVYQSRCPPIE 27

RESULT 13
OY12E1 PRELIMINARY; PRT; 190 AA.
AC OY12E1;
DT 01-NOV-1998 (TREMBlrel. 08, Created)
DT 01-NOV-1998 (TREMBlrel. 08, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)

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DE Vascular endothelial growth factor.
 GN VEGF.
 OS Ovis aries (Sheep).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Caprinae; Ovis.
 OX NCBI_TaxID=9940;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Columbia-Rambouillet;
 RA Cheung C.Y., Brace R.A.;
 RT "Ovine vascular endothelial growth factor: Nucleotide sequence and
 expression in fetal tissues."
 RL Growth Factors 0:0-0(1998).
 DR EMBL; AF071015; AAC23608.1;
 DR HSSP; P49763; 1F2V.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 SQ SEQUENCE 190 AA; 22342 MW; 0D5E3B3E5C53E739 CRC64;

Query Match 62.7%; Score 69; DB 6; Length 190;
 Best Local Similarity 68.4%; Pred. No. 0.003;
 Matches 13; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 2 HEVVKFEDVLRSSCHPIE 20
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 Db 37 HEVVKFMDVYQSRFCRPIE 55

RESULT 14

Q8SPL5 Q8SPL5 PRELIMINARY; PRT; 128 AA.
 AC Q8SPL5;
 DT 01-JUN-2002 (TrEMBLrel. 21, Created)
 DT 01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
 DT 01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
 DE Vascular endothelial growth factor (Fragment).
 GN VEGF.
 OS Equus caballus (Horse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
 OX NCBI_TaxID=9796;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Endometrium;
 RA Welter H., Bollwein H., Einspanier R.;
 RT "Expression of horse endometrium."
 RL Submitted (MAR-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AJ439887; CAD29178.1;
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 FT NON_TER 1
 FT NON_TER 128
 SQ SEQUENCE 128 AA; 14943 MW; 64EFA5DB550FC638 CRC64;

Query Match 58.2%; Score 64; DB 6; Length 128;
 Best Local Similarity 72.2%; Pred. No. 0.013;
 Matches 13; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

QY 3 EVVKFEDVLRSSCHPIE 20
 ||||| ||| ||| |||
 Db 1 EVVKFMDVYQSRFCRPIE 18

RESULT 15

Q9GK00 Q9GK00 PRELIMINARY; PRT; 124 AA.
 AC Q9GK00;
 DT 01-MAR-2001 (TrEMBLrel. 16, Created)
 DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
 DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor (Fragment).
 GN VEGF.
 OS Callithrix jacchus (Common marmoset).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Platyrrhini; Callitrichidae; Callithrix.
 OX NCBI_TaxID=9483;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Oviduct;
 RA Welter H., Gabler C., Einspanier R.;
 RT "growth factor expression in marmoset monkey oviducts."
 RL Submitted (MAY-2000) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AJ278192; CAC19923.1;
 DR HSSP; P49763; 1F2V.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 FT NON_TER 1
 FT NON_TER 124
 SQ SEQUENCE 124 AA; 14548 MW; AA6F8CAFFCF0A0CC CRC64;

Query Match 57.3%; Score 63; DB 6; Length 124;
 Best Local Similarity 75.0%; Pred. No. 0.018;
 Matches 12; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 5 VKFEDVLRSSCHPIE 20
 ||| ||| ||| |||
 Db 1 VKFMDVYQSRFCRPIE 16

Search completed: July 24, 2003, 14:47:28
 Job time : 40.2941 secs